# DAB1

# DISTRIBUTED AUDIO SYSTEM

## INSTRUCTION MANUAL

# Important Safety Information

IMPORTANT: Read all of these instructions before you operate your DAB1, and save these instructions for later use.

1. **Read Instructions** — All these safety and operating instructions should be read before you operate the unit.
2. **Retain Instructions** — These safety and operating instructions should be retained for future reference.
3. **Heed Warnings** — All warnings on the unit and in the operating instructions should be adhered to.
4. **Follow Instructions** — All operating and use instructions should be followed.
5. **Water and Moisture** — The unit should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Carts and Stands** — The unit should be used only with a cart or stand that is recommended by the manufacturer.
   - A unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.

7. CAUTION: **To prevent electric shock, do not use the DAB1's polarized plug with an extension cord, receptacle, or other outlets unless the blades can be fully inserted to prevent blade exposure.**
8. **Ventilation** — The unit should be situated so that its location or position does not interfere with its proper ventilation. For example, the unit should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or be placed in a built-in installation, such as a bookcase or cabinet, that may impede the flow of air through the ventilation openings.
9. **Heat** — The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including other audio components) that produce heat.
10. **Power Sources** — The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.
11. **Grounding or Polarization** — Precautions should be taken so that the grounding or polarization means of the unit is not defeated.
12. **Power Cord Protection** — Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the controller.
13. **Cleaning** — The unit should be cleaned only as recommended by the manufacturer.
14. **Non-Use Periods** — The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.
15. **Object and Liquid Entry** — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
16. **Damage Requiring Service** — The unit should be serviced by qualified service personnel when:
    a. The power-supply cord or the plug has been damaged; or
    b. Objects have fallen or liquid has been spilled into the unit; or
    c. The unit has been exposed to rain; or
    d. The unit does not appear to operate normally or exhibits a marked change in performance; or
    e. The unit has been dropped or the enclosure damaged.
17. **Servicing** — The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

**CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER OR BACK. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO AUTHORIZED SERVICE PERSONNEL.

**WARNING:** TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. THE APPLIANCE WHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING. NO OBJECTS FILLED WITH LIQUIDS SHALL BE PLACED ON THE APPLIANCE.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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# Introduction

Figure 1: DAB1 Distributed Audio System

Thank you for purchasing the Sonance DAB1 Distributed Audio System. The DAB1 lets you listen to any of four different audio sources (including a built-in FM/AM tuner) in up to six different rooms (zones) at the same time. When programmed with the included Sonance Control Manager programming software and used with available Sonance keypad controllers and the included IR remote control, the DAB1 gives you easy, logical control of both the system's audio sources and the sound in each room. The Control Manager software even lets you program the DAB1 with macros that allow complex functions (like turning the system ON, selecting a source, setting the volume and other audio parameters and starting the music in a specific room) to be accomplished with a single button push. There is also a "PARTY MODE" that gives you control of the whole house from a single location, and a Paging function for communication between rooms. For more sophisticated systems, the DAB1 has an RS-232 communications port that can integrate it with whole-home control systems that control such things as lights, temperature and security systems.

The DAB1 is controlled by Sonance DAB1 Keypads, C4630 SE Main and Numeric Keypads and Sonance Navigator® K1 and K2 Keypad Controllers (all available separately). It can also be controlled by the included IR remote, either via its built-in front-panel IR receiver or via IR receivers in connected keypads. The DAB1 can also be serial-controlled by 3rd-party control systems via its RS-232 connection.

# DAB1 Features

## Audio:

- Four-source, six-zone, distributed audio matrix and control system
- Four source inputs (4 external, or 3 external + internal tuner)
- Six zone speaker-level stereo outputs (30 watts/ch RMS x 12 @ 8 ohms)
- Four buffered line-level audio outputs that can be used to bridge to additional DAB1 units or as record outputs
- Six zone line-level audio outputs (fixed or variable)
- Built-in FM/AM tuner with 12 presets
- Line-level source inputs are adjustable for source-to-source input level matching
- Software configuration of individual zone turn-on volume, maximum volume, paging volume, treble, bass and balance
- Paging Input connections

## Control:

- Connections for up to six Sonance keypad controllers (expandable)
- Sonance Control Manager software CD included
- Extensive macro capability
- RS-232 port for external control
- Six zone-specific IR outputs
- Four Common IR outputs
- Four Programmed IR outputs for controlling specific source components
- IR Link for distributing IR signals in expanded systems with multiple DAB1 Controllers
- Sync connections link multiple DAB1 units for unified control in expanded systems
- Upgradeable firmware lets you easily add new features when they become available
- Included IR remote control

# Box Contents

### Your DAB1 Home Audio System box should contain the following items:

(1) Sonance DAB1 Distributed Audio System
(2) Rack-mount ears
(6) Removable 4-Wire Speaker Connectors
(1) IEC Power cord (115V version only)
(1) USB Connection Cable
(1) Dipole FM Antenna
(1) 300-ohm/75-ohm Antenna Adapter
(1) F-Connector Antenna Adapter
(1) AM Antenna
(1) Sonance Control Manager software CD-ROM

# Unpacking

Save the shipping carton and polystyrene inserts so you can safely transport your DAB1 in the future. Before you install the DAB1, locate the serial number on the rear panel and note it here for future reference: S/N:

# Placement

The DAB1 should be installed at the main termination of all audio system wire and cable runs. The system's source components (CD player, iPort™/iPod®, music server, satellite radio receiver, etc) should also be installed at this location.

The DAB1 may be placed on a shelf in a wall unit in a media room or rack-mounted in a 19" standard equipment rack in a dedicated equipment room. When determining the location for the system components consider having access to the system for loading CDs, DVDs and other media. You should also make provisions for easy access if the components should require service.

## Ventilation and Airflow

The DAB1 must be placed in a location that will allow sufficient airflow for ventilation. Leave space above the unit, per the safety instructions, to allow the unit to "breathe" through the vent holes on the top and bottom of the unit. Blocking the vent holes will inhibit airflow through the unit and can cause damage to the DAB1. If necessary, install a fan to maintain enough airflow to ensure adequate convection cooling.

Be sure to leave plenty of room for wire and cable. The amount of wire used in this type of installation can quickly fill the empty space around the DAB1 and act as a thermal insulator. This can create an undesirable thermal condition that could cause the unit to shut down. Leaving extra room for wire and cable is also a good idea if you ever want to upgrade the system or if it ever needs service.

## General Placement Guidelines

- Keep the DAB1 out of direct sunlight and away from windows that could let in rain.
- Place the DAB1 away from heat sources such as hot air ducts or radiators.
- Do not place the DAB1 directly on carpet that could interfere with airflow into its bottom vent openings.
- If you stack your components, it is better to place the DAB1 above or alongside your other components. When driven hard, the DAB1 creates heat that can affect components stacked on top of it.

### Shelf-Mounting

IMPORTANT: Never remove the feet when mounting the unit on a shelf. Doing so may cause damage to the DAB1 and other components due to heat being trapped.

### Rack-Mounting

Use the included rack-mount adapters to rack-mount the DAB1. Use the four chassis screws already secured to each side of the DAB1 to attach the rack adapters. The DAB1 chassis has been specially designed to provide support when using the rack adapters. The adapters have also been designed to match the DAB1's front panel for a clean, professional look. The DAB1 requires 3U of rack space. When rack-mounting the DAB1, leave sufficient space between the unit and other components in the rack to allow proper airflow for ventilation. Sonance recommends using a rack vent spacer above the unit to improve airflow.

## System Overview

The DAB1 Distributed Audio System has features and capabilities that will meet the demands of an extremely wide variety of applications. It can be a simple background music system, serve as the preamp/controller for a powerful foreground music system, or it can be integrated as a sub-system in a complex whole-house automation and control package. Understanding the DAB1's features and capabilities is one of the keys to creating a great system.

In all stages of system design and installation you should plan ahead. Put the entire design down on paper so you can verify all aspects of it before beginning the installation. With a system that can literally leave holes in the walls if something hasn't been properly planned or tested, we recommend setting-up, programming and testing the system's components as they will be used before actually performing the installation. This will help insure that the system will work as designed and that you have all the necessary parts and components on hand prior to beginning the installation.

Always plan for system expansion in terms of both size and flexibility. Anticipating system expansion by carefully planning what the initial installation is going to be and what the system requirements might be as upgrades are incorporated can save you time, money and aggravation.

### Control Considerations

The DAB1 is designed to be controlled by the DAB1 keypad, the C4630 SE Main Keypad, or Sonance Navigator® K1 and K2 keypads. The included IR remote can operate via the DAB1's front-panel IR receiver, and it can also operate via external IR receivers connected to the DAB1 via its keypad controllers. The C4630 SE Main Keypad has a built-in holster that can accommodate a Sonance FSMR1 or MR1 IR receiver (see page 19). When planning your system be sure to include all of your control needs along with your audio requirements.

### Head End Considerations

Reserve as much space as possible for the DAB1 and source components — an equipment closet with rear access to the components is ideal. At the very least, reserve enough space in the equipment rack or wall unit to properly install all components, leaving plenty of room for wire, ventilation, possible future expansion and room to work. *(continued on page 11)*

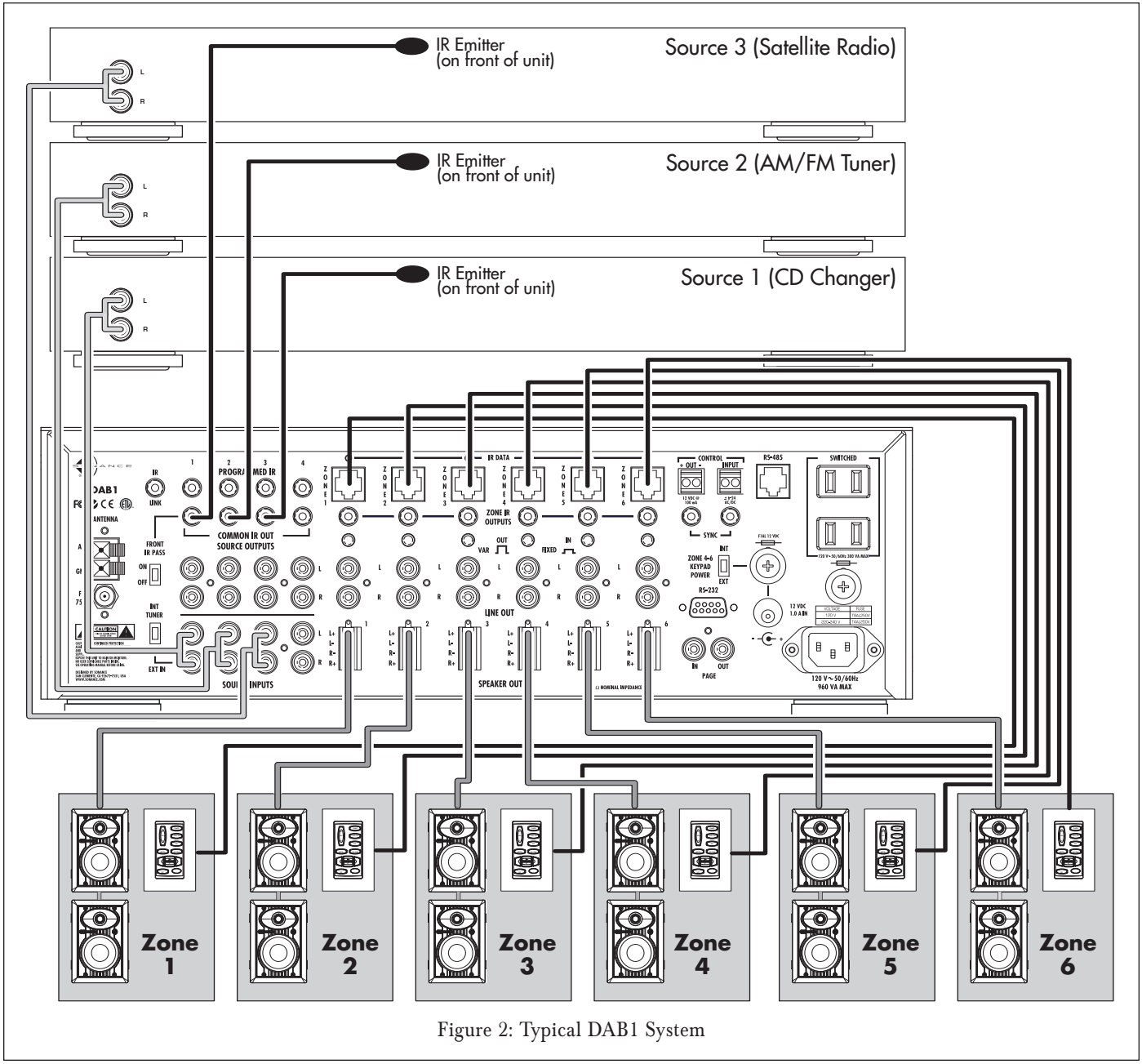
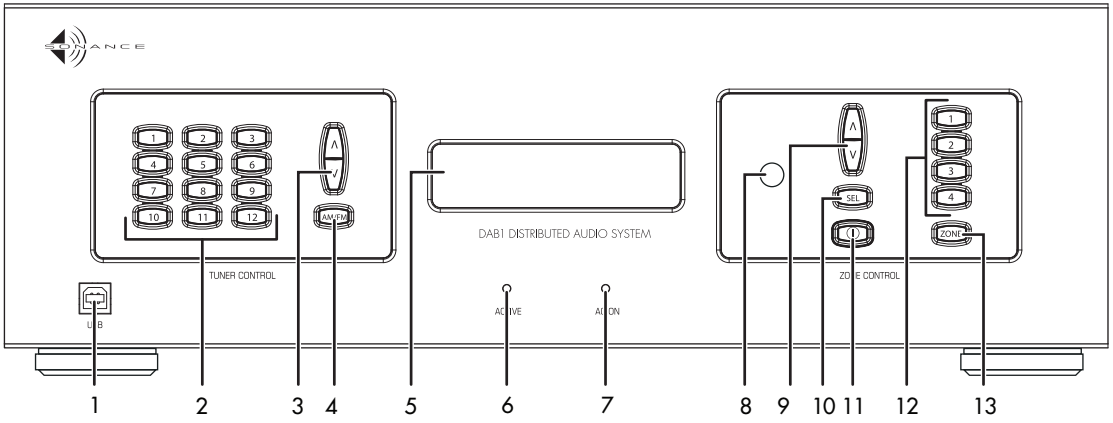



Figure 2: Typical DAB1 System

Figure 3:
DAB1
Front and
Rear Panels

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3. Tuner UP/DOWN Buttons (Page 26)
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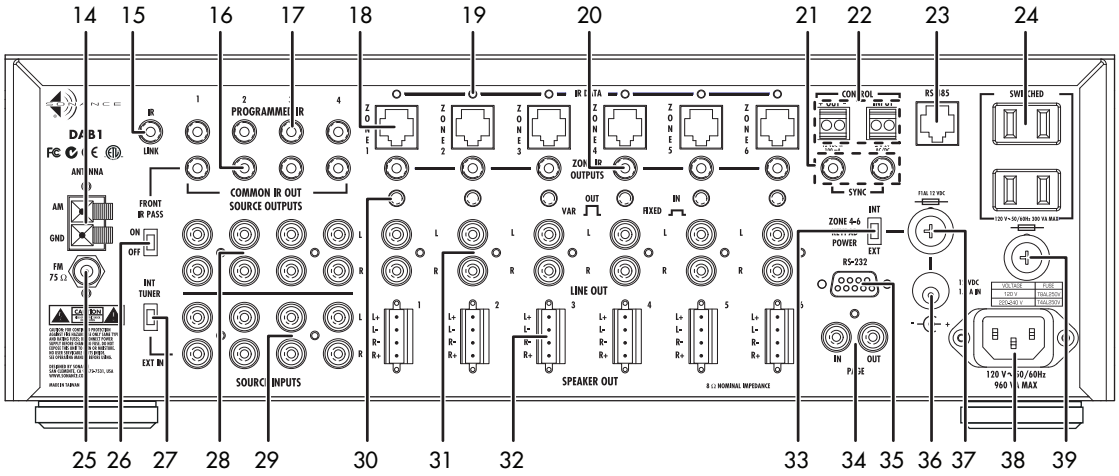
38. Power Cord Connection (Page 11)
39. AC Fuse Holder (Page 11)



### Zone Considerations *(continued from page 8)*

What is the performance requirement for each zone? Some zones may only require a keypad controller and speakers. Some may need an additional IR receiver. One may need a more flexible keypad and a high-power amplifier. A master suite may require a multi-channel amplifier to distribute audio to the bedroom, bathroom and patio. One or more zones may have local devices that need to be incorporated into the system for control, audio or video. The DAB1 can be used with several different Sonance keypad controllers and IR receivers, so you can select the ones that are best for each zone.

## Connecting the DAB1

### Power Connections (see *Figure 4*)

**Power Cord:** The DAB1 features a removable IEC power cord. Plug the female end of the power cord into the Power Cord Connector on the Controller's rear panel and plug the male end into a grounded wall socket. DO NOT plug the DAB1's power cord into a convenience outlet on any other audio or video component.

IMPORTANT: Do not plug the power cord into the wall outlet until all system connections have been made and verified.

*Note: If you need to use an extension cord, use only a heavy-duty (14-gauge or larger) extension cord to avoid starving the DAB1 of all the current necessary for full-power operation.*

**Switched AC Outlets:** Connect the AC power cords of up to two source components into these outlets. DO NOT modify power strips to fit these outlets by removing their ground plugs.

### Replacing the AC Fuse

The DAB1 has an 8A, 250V slo-blo AC fuse. To replace the fuse, unplug the power cord from the Power Cord Connector and use a screwdriver to remove the fuse.

CAUTION: For continued protection against fire, replace the fuse with only the same type and rating.

### Antenna Connections (see *Figure 5*)

**AM:** Connect the included AM Loop Antenna to the DAB1's AM Antenna Connector.

**FM:** Connect the included FM Dipole Antenna, 300-ohm/75-ohm Antenna Adapter and F-Connector Antenna Adapter together, and then to the DAB1's FM antenna connector.

*Note: If reception is weak it may be necessary to use outdoor or amplified indoor antennas to improve reception. If the incoming signal is too strong, use a weaker antenna or RF attenuator.*

**CAUTION:**

TO PREVENT ELECTRIC SHOCK, DO NOT DEFEAT THE THIRD PRONG OF THE POWER CORD PLUG.

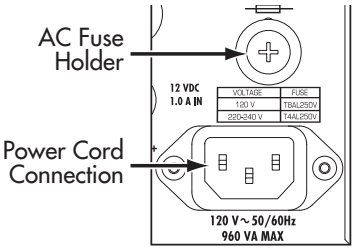



Figure 4:
Power Connection & AC Fuse

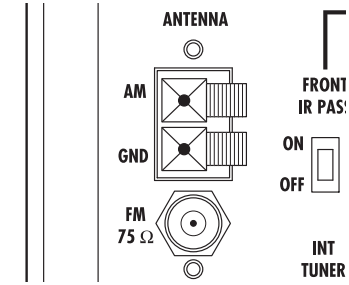



Figure 5: Antenna Connections

## Audio Source Connections

CAUTION: Always unplug the DAB1's power cord from the wall outlet before making source signal or speaker connections.

The DAB1 has input and output connections for four source components. The corresponding SOURCE INPUT and SOURCE OUTPUT connectors are arranged vertically (see *Figure 6*). The SOURCE OUTPUT connections are buffered.

### SOURCE INPUT Connections

Connect a stereo RCA audio cable from the left & right line-level audio outputs of a source component to one set of left & right SOURCE INPUT jacks on the DAB1. You can connect up to four source components.

### Source 1 INT TUNER/EXT IN Switch

The Source 1 INT TUNER/EXT IN Switch assigns either the DAB1's internal FM/AM tuner or the component connected to the #1 SOURCE INPUT jacks as Source 1.

### SOURCE OUTPUT Connections

**For Recording:** Connect a stereo RCA audio cable from one set of DAB1 L&R SOURCE OUTPUT jacks to the record inputs on the recording device. This allows the source component connected to the corresponding SOURCE INPUT jacks to be recorded.

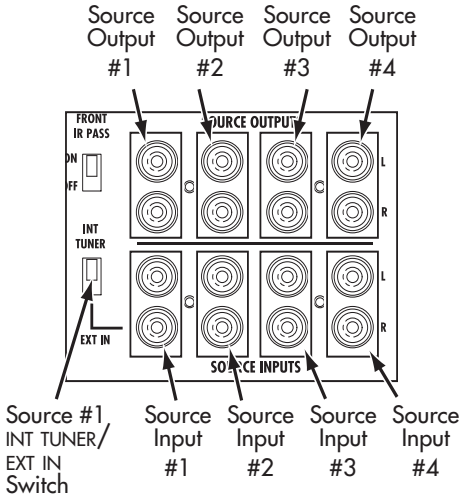



Figure 6:
Source Input/Output Connections

**When Using Multiple DAB1 Controllers:** In a system that incorporates multiple DAB1s, you can feed up to four common sources to any or all of the controllers.

1. Designate one DAB1 as the PRIMARY controller and the others as SECONDARY controllers.
2. Connect the source components to the SOURCE INPUTS on the PRIMARY DAB1 as described above.
3. For each source that you want to feed to the SECONDARY controllers, connect a stereo RCA audio cable from its SOURCE OUTPUT Jacks on the PRIMARY DAB1 to the corresponding set of SOURCE INPUT jacks on the SECONDARY DAB1 (SOURCE 1 OUT to SOURCE 1 IN, etc.). You can repeat this for up to four DAB1 Controllers (24 zones). This will feed audio from up to four common sources to all zones in an expanded system.

## Speaker Connections

CAUTION: Always unplug the DAB1's power cord from the wall outlet before making or changing source or speaker connections.

### Use Good Speaker Wire

For the best sound you should never use thin-gauge speaker wire – it will constrict the sound and diminish bass response. We recommend that you use premium Sonance MediaLinQ speaker cable, which also complies with UL fire rating codes. You may also experiment with audiophile brands of speaker cable, but be sure to check local codes governing wire that may be installed within walls or ceilings. Use at least 18 AWG speaker wire for runs up to 50', at least 16 AWG for runs up to 100' and at least 14 AWG for runs up to 250'.

### Wiring the Speaker Connectors

The DAB1's speaker outputs are rated for 8-ohm nominal speakers.

1. Run speaker wire from each speaker to the controller location. We recommend that you mark each wire's positive ('+') and negative ('–') leads, its channel (left or right) and which zone it is from so that you can connect it to the proper speaker terminals.
2. Strip no more than ¼" of insulation from each speaker lead. Twist the strands or tin the exposed wire with solder to ensure that there are no stray strands. (Stray strands that touch each other or touch the controller chassis can cause a short-circuit that can damage the amplifier.)
3. The DAB1 has six removable 4-wire speaker connectors (one for each zone) that can accept wire up to 14AWG. The connector features set screws that secure the wires.
4. Insert the exposed portions of the speaker wires into the terminal openings. Make sure to insert the '+' and '–' leads into the correct openings, as shown in *Figure 6*.
5. After making sure that there are no stray wires touching each other, tighten the set screws to secure the wires, as shown in *Figure 7*.
6. Press the removable connector into the corresponding zone SPEAKER OUT connector on the controller until it locks into place (see *Figure 8*).

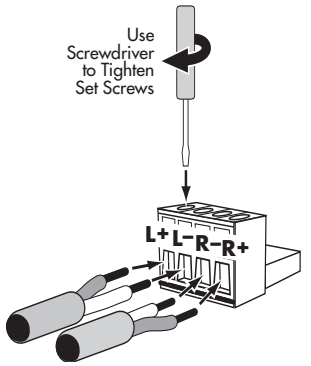



Figure 7:
Wiring the Removable
Speaker Connectors

## Zone Line Output Connections

In addition to Speaker Output connectors, each zone on the DAB1 also has a set of Line Output jacks (see *Figure 8)*. The Zone Line Outputs let you connect high-power amplifiers to individual zones that require more power than the DAB1's built-in 30 Watt/ch amplifier can provide, or expand a zone into sub-zones by using a multi-channel amplifier.

### Line Output Fixed/Variable Switch

Each zone Line Output has a push-button switch that toggles the Line Output between VARIABLE (OUT) and FIXED (IN). (See *Figure 8.*) The VARIABLE setting allows zone keypad and remote controllers to control the level of the LINE OUTPUTS. In the FIXED setting the LINE OUTPUT level cannot be varied. *NOTE: The keypad and remote control* MUTE *controls function ONLY in the* VARIABLE *setting.*

IMPORTANT: Do not push the Line Output FIXED/VARIABLE switch while the DAB1 is operating. Doing so can produce high output levels that can damage the DAB1, the connected amplifier or the speakers.

*Note: When a zone's Line Output is set to* FIXED, *the following Sonance Control Manager Zone Setup features for that zone are disabled for the Line Output: Default Volume, Maximum Volume, Page Volume, Balance, Bass, Treble. See pages 32 and 33.*

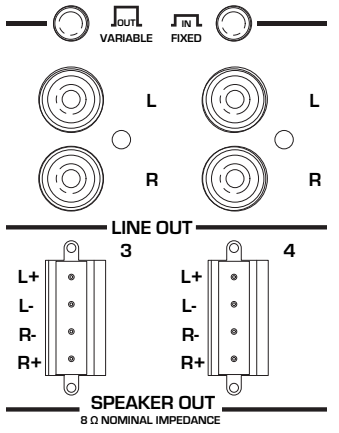



Figure 8:
Zone Line Outputs, Speaker
Outputs and Line Output
Fixed/Variable Switches

Figure 9:
Using a High-Power Amplifier in a Zone

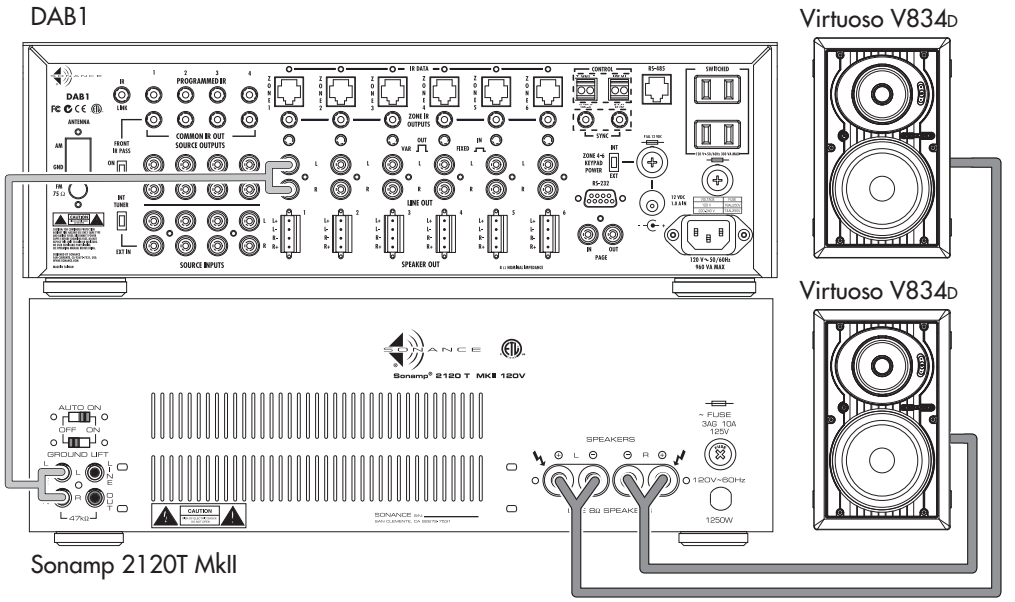
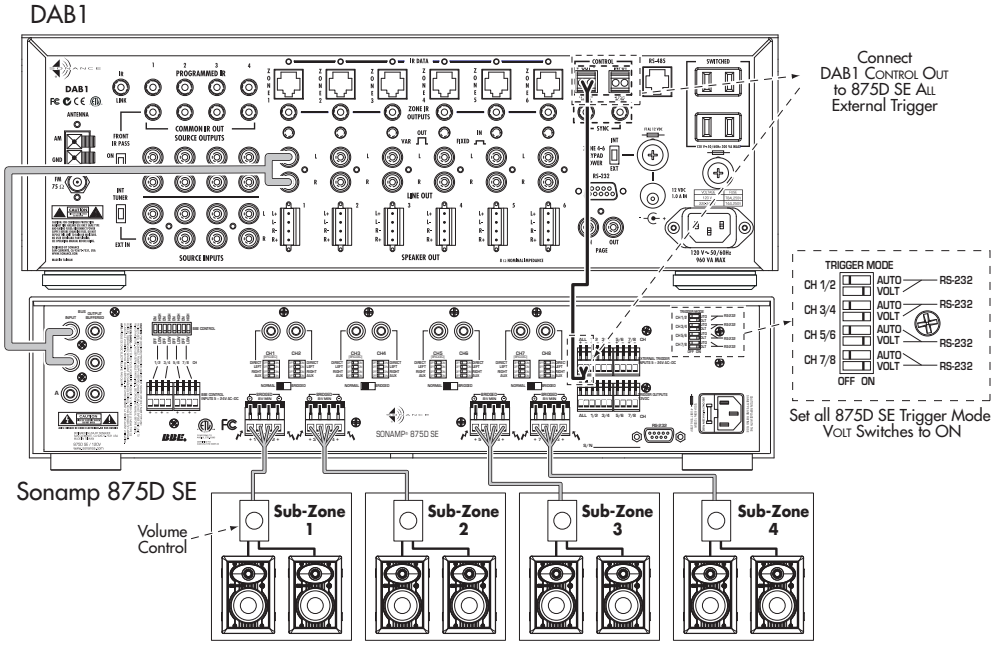



Figure 10:
Using a Multi-Channel Amplifier for Sub-Zone Expansion



**Connecting a High-Power Amplifier in a Zone**

1. Set the zone's Variable/Fixed Output switch to the VARIABLE (OUT) position. Note: If the Zone LINE OUTPUT is set to FIXED, audio will continuously pass to the amplifier inputs, defeating any signal-sensing auto-ON/OFF triggering. In this case, the amplifier should be triggered by a control voltage or other means.
2. Connect a stereo RCA cable from the appropriate Zone Line Outputs on the DAB1 to the high-power amplifier's input connectors (see *Figure 9*, opposite). The VARIABLE setting allows the zone's volume to be controlled by the DAB1 via a keypad or a properly-programmed IR remote.

**Using a Multi-Channel Amplifier for Sub-Zone Expansion**

1. Set the zone's Variable/Fixed Output switch to the FIXED (IN) position.
2. Connect a stereo RCA cable from the appropriate Zone Line Outputs on the DAB1 to the multi-channel amplifier's Bus input connectors (see *Figure 10*, opposite). For example, an 8-channel amplifier like the Sonamp 875D SE will let you put four speaker pairs in the zone. The VARIABLE output setting allows the DAB1's Mute function to mute all four sub-zones. Volume for each pair of speakers in each sub-zone is controlled by an in-wall volume control.
3. Connect the Control Out on the DAB1 to the External Control input on the sub-zone amplifier (if available) to automatically power-up the external amp when any zone on the DAB1 is ON.

*Note: The DAB1 can also turn connected amplifiers ON and OFF via serial control. See page 43.*

## IR Connections (see *Figure 11*)

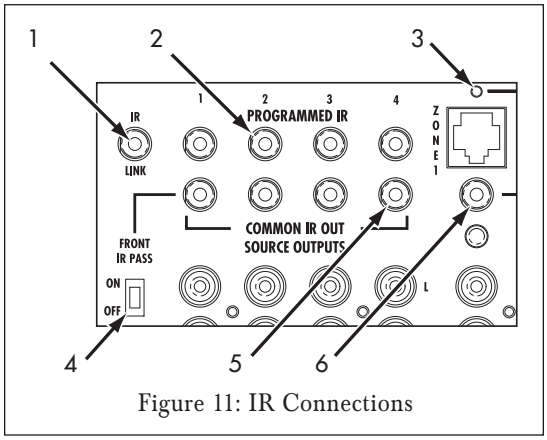


Figure 11: IR Connections

1. **IR LINK Port:** 3.5mm mini jack that creates an IR buss for Common IR signals when using multiple DAB1s in a system.
   - When using two DAB1s, use a 3.5mm mono mini cable to connect the IR Link jacks on the two units.
   - When using three or more DAB1 Controllers, use mini plug Y-adapters on the IR Link jack on the primary DAB1 to connect to the IR Link jacks of the secondary DAB1s.
2. **PROGRAMMED IR OUT Ports:** Four 3.5mm mini jacks that output IR commands to the four individual source components as configured in the Sonance Control Manager. (The default Programmed IR Port settings correspond to the Input Source numbering: Port 1 = Source 1, etc.) Allows IR signals to be routed to specific source components, for selective control of multiple same-brand, same-model components.
   - Connect one Sonance OptiLinQ®-type IR emitter to each Programmed IR Out port for each source component to be controlled. Attach one emitter to the IR window on each source component.
3. **ZONE IR DATA LED:** Six amber LEDs (one for each zone) that flash to indicate IR activity in their respective zones.
4. **FRONT IR PASS Switch:** Passes IR commands from 3rd-party remotes through the front-panel IR receiver to the Programmed and/or Common IR Outputs, as configured in the Sonance Control Manager software.

5. **Common IR Out Ports:** Four 3.5mm mini jacks that output all IR commands regardless of zone for all source components (all zones have control of all sources). Intended for all systems except those that contain multiple same-brand, same-model source components.

   • Connect one Sonance OptiLinQ-type IR emitter to each Common IR Out port for each common source component to be controlled. Attach one emitter to the IR window on each source component.

6. **Local IR Out Ports:** Six 3.5mm mini jacks (one for each zone) that allow control of a specific source component from a specific zone. Connect one Sonance OptiLinQ-type emitter to the appropriate Local IR Out jack and attach the emitter to the source component's IR window.

   **Example:** The living room is Zone 1. The CD changer is Source 2 and is to be controlled *only* from the living room. Connect the IR emitter to the Zone 1 Local IR Out jack and attach it to the IR window on the CD changer.

   The CD changer can be controlled only from the living room, but all zones can still select Source 2 and listen to the CD changer when it is playing.

## Control Output, Control Input and Sync Connections (see *Figure 12*)

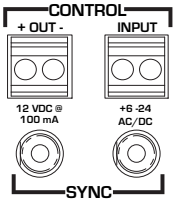



Figure 12: Control Input/ Output and Sync Connections

### Control Out Terminal

One 2-wire screw connector that outputs 12VDC @ 100mA when at least one DAB1 zone is active. Turns OFF (0VDC) when all zones are OFF. Can be used for triggering external devices such as a zone-specific external amplifier. Accepts one pair 14 – 24 AWG wire.

### Control Input Terminal

A general trigger input that can be used for Paging or sense input as part of a DAB1 Status test in a macro. Requires 5 – 24V AC or DC @ 100mA. Accepts one pair 14 – 24AWG wire.

### Wiring the Control Connections

1. Strip approximately ¼" of insulation from each conductor and twist the strands until tight to prevent stray strands.
2. Be sure to maintain proper polarity by connecting the appropriate '+V' and 'GND' terminals on the device to the appropriate '+V' and 'GND' terminals on the DAB1. Be sure the connections are tight and that there are no frayed ends sticking out that could cause a short-circuit.

### Sync Connections

Two 3.5mm mini jacks that are used to trigger-link up to four DAB1s to provide communication between multiple DAB1 units that form large systems with more than 6 zones. For details, see *Appendix 1: Party Mode* , on page 54. Use mono 3.5mm mini cables to daisy-chain the Sync jacks of all DAB1 units in the system.

Audio and IR will pass-through multiple DAB1s that are in the Standby mode. Power for the source components should be managed separately or left ON.

If no other zones are ON and a zone on a DAB1 is turned ON with a Source button Press, only that DAB1 and that zone will turn ON.

## Paging Connections (see *Figure 13*)

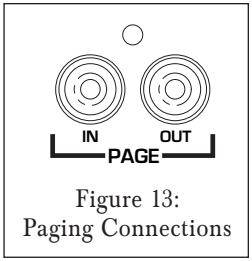


Figure 13:
Paging Connections

The DAB1's Paging connections allow connection of an audio input from a telephone system, microphone preamp or other device to be distributed to designated Paging zones when triggered by the CONTROL Input. (Paging must be configured in the Sonance Control Manager.)

When 5 – 24VDC is present at the DAB1 CONTROL IN terminals, all system zones set to 'Allow Paging' as configured with the Sonance Control Manager will switch to audio from the PAGE IN jack. When the control voltage drops to 0VDC, audio in the zones will switch back to the selected source component.

**PAGE IN:** One gold-plated mono RCA jack. Designed for use with line-level audio input from a telephone system, microphone preamp or other device to be distributed to designated Paging Zones when triggered with the Control Input. ('Allow Paging' must be configured in the Sonance Control Manager.)

**PAGE OUT:** One gold-plated mono RCA jack. Sends the Paging audio signal to other DAB1s in a system using multiple DAB1 controllers.

**Trigger Wire:** Connect a 2-conductor non-shielded wire from the trigger voltage source on the Paging device to one DAB1's CONTROL INPUT terminal (see *Figure 12,* on page 16), and daisy-chain to the CONTROL INPUT terminals of all other DAB1s in the system. (Use 20AWG wire for runs up to 500'; 18AWG wire for runs up to 1000'.)

## RS-232 Connection (see *Figure 14*)

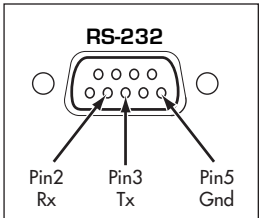


Figure 14:
RS-232 Terminal Pins
(Connector Side)

The DAB1's RS-232 connection allows it to send or receive serial commands to or from other components. The RS-232 connection uses a female DB-9 connector with the following pinout configuration:

**Pin 2 = Receive (RX)**

**Pin 3 = Transmit (TX)**

**Pin 5 = Ground (GND)**

Since different serial devices have different RS-232 connection configurations, consult the documentation of the device you want to connect to the DAB1 to determine what cable/adapter may be required.

## RS-422 Port (see *Figure 3*, on page 10)

The RS-422 port allows the DAB1's capabilities to be expanded in the future. At the time of this writing (05/07) the RS-422 port was not active. Check www.sonance.com periodically for the latest information about this feature.

# Keypad Controllers

As mentioned previously, the DAB1 can be operated by one or more keypad controller in each zone. The DAB1 can be controlled by the C4630 SE Main and Numeric Keypads (below) and the DAB1 keypad (see page 22). Additionally, the DAB1 can also be controlled by the Sonance Navigator® K1 and K2 keypads (see *Using the DAB1 with Sonance Navigator K1 and K2 Programmable Keypads,* on page 49).

## C4630 SE Main and Numeric Keypad

**C4630 SE Main Keypad (see *Figure 15*)**

The C4630 SE Main Keypad lets you control the zone volume, muting and select the active source, as well as providing buttons for controlling the source component that's active in the zone. A ZONE OFF button is also provided. The ZONE OFF button's LED color indicates the zone's status:

**Red:** Zone is OFF (DAB1 is receiving power)

**Green:** Zone is ON

**Orange (flashing):** Connected IR receiver is receiving IR commands or a keypad button is being pressed. This occurs even if the Zone is turned OFF.

Each keypad button has three different actions: PRESS, PRESS-AND-HOLD and DOUBLE-PRESS. This allows each button to issue three distinct commands or macros. Out-of-the-box the following button functions are available on the Main Keypad:

**VOLUME UP/DOWN Buttons:** PRESS = Volume UP/DOWN

**MUTE button:** PRESS = Mute/un-Mute the local zone; PRESS-AND-HOLD = Mute/un-Mute all zones designated for PARTY MODE (see *Appendix 1: "Party Mode"*, on page 54).

**Zone Source Selector Buttons:** PRESS = Selects that source in the local zone; PRESS-AND-HOLD = Selects that source in all zones designated for PARTY MODE (see *Appendix 1: "Party Mode"*, on page 54). Pressing a Source Select button in a zone that is OFF will turn that zone ON.

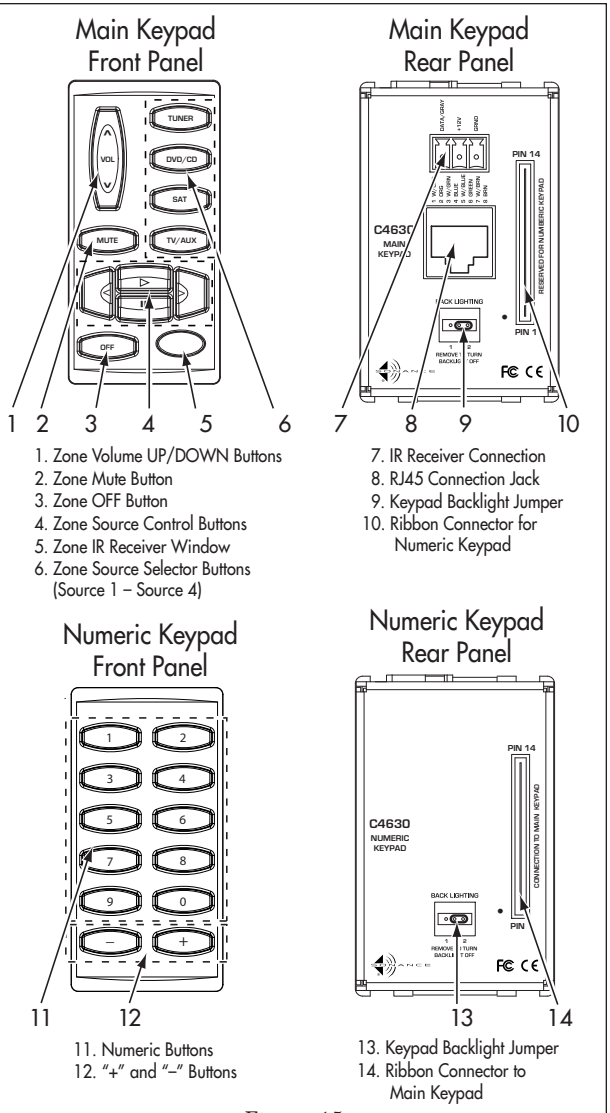



Figure 15:
C4630 SE Main and Numeric Keypads

**Zone OFF Button:** PRESS = Turns the local zone OFF; PRESS-AND-HOLD = Turns all zones OFF (see *Appendix 1* on page 54 for information about turning-OFF all zones in systems with multiple DAB1s).

Additional PRESS, PRESS-AND-HOLD, DOUBLE-PRESS, source component control and macro trigger functions require programming

with the Sonance Control Manager software. The Sonance Control Manager can also be used to change the out-of-the-box button functions.

**C4630 SE Numeric Keypad (see *Figure 15*, opposite)**

The C4630 SE Numeric Keypad incorporates ten numeric buttons labeled "0" through "9", and two buttons labeled "+" and "–". Like the C4630 SE Main Keypad, each of these buttons has PRESS, PRESS-AND-HOLD and DOUBLE-PRESS functions. Unlike the C4630 SE Main Keypad, the Numeric Keypad has no "out-of-the-box" functions — it must first be programmed with the Sonance Control Manager software. The Numeric Keypad connects to the Main Keypad with the included 14-pin ribbon cable; it cannot operate on its own. See *Mounting the C4630 SE Keypads*, on page 20 for details.

**C4630 SE Main Keypad IR Receiver Holster**

The C4630 SE Main Keypad does not feature a built-in IR receiver: it has a holster that accepts a Sonance FSMR1 Full-Spectrum IR Receiver (part #92222) or MR1 Micro IR Receiver (part #91344), both available separately. A window on the front of the keypad allows the IR receiver to function (see *Figure 15, opposite*). IR talkback is through the keypad's ZONE OFF button.

If the Main Keypad is mounted in a location that creates interference from sunlight when the IR receiver is installed in its holster, you can move the IR receiver to another location in the room and still wire it to the keypad.

*NOTE: When using C4630 SE keypads, IR receivers must be connected to the keypads to allow the included IR remote to control the DAB1 from inside the listening zones, and to allow source component remotes to control their respective source components from inside the listening zones.*

Installing an IR receiver Into a C4630 SE Main Keypad:

1. Insert the IR receiver into the keypad holster as shown in *Figure 16A*. Feed the ribbon cable through the opening in the holster.
2. Carefully insert the holster into the keypad as shown in *Figure 16B*. The IR receiver's photodiode should be directly behind the keypad's IR window.
3. Connect the IR receiver's 3-conductor ribbon cable to the keypad's rear-panel IR RECEIVER CONNECTION as shown in *Figure 17*. The connection features a 3-pin removable connector similar to the ones used for the speaker connectors. Insert the wires into the openings at the rear of the connector and secure them by tightening the screws at the top of the connector.
   - The gray wire on the ribbon cable is the DATA wire, the center wire is +12V and the remaining wire is GROUND.

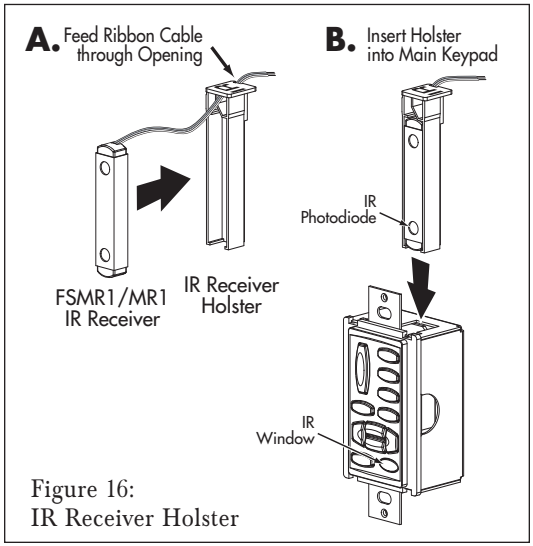



Figure 16:
IR Receiver Holster

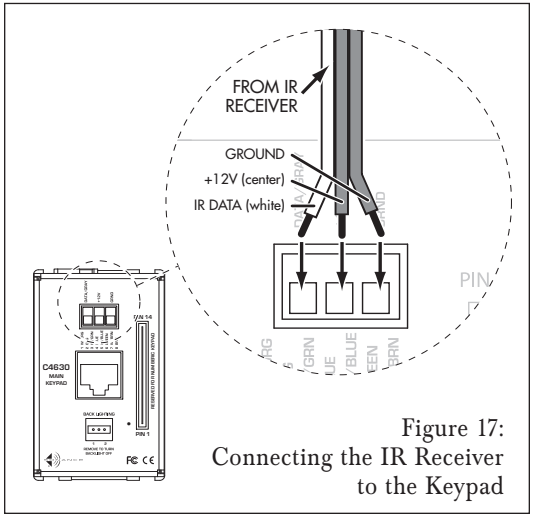



Figure 17:
Connecting the IR Receiver to the Keypad

### C4630 SE Keypad Backlighting Jumper

The C4630 SE Main and Numeric Keypads have rear-panel Backlight Jumpers (*Figure 18*) that allow you to adjust the amount of keypad backlighting to suit room lighting conditions and user preference. Position 1 = DIM; Position 2 = BRIGHT; remove the jumper to turn the backlight OFF.

Using needle-nose pliers, tweezers or a similar tool, carefully insert the jumper in the desired position (see *Figure 18*). The factory default is BRIGHT.

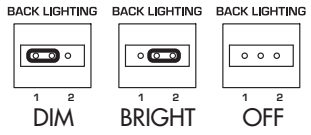


Figure 18: C4630 SE Keypad Backlight Jumper

*NOTE: Unless the backlight jumper is removed, the keypad backlighting is always ON, even if the local zone and all zones are OFF.*

### C4630 SE Keypad Location

The C4630 SE Main and Numeric Keypads can be mounted in standard single or double J-box enclosures or P-rings.

*NOTE: Do NOT mount the C4630 SE keypads in the same electrical box with AC house wiring, light switches, or any other high-voltage device or control. The keypads can share gang boxes with each other, or with other controls such as A/B speaker switches, infrared receivers and volume controls, if these other devices are rated as Class 2 devices according to the National Electrical Code.*

The C4630 SE keypads should typically be located near the entrance to a room, similar in height and location to a light switch (see NOTE, above). If an optional IR receiver is installed in the Main Keypad (see page 19), care should be taken to avoid placing the keypad near windows or areas that get direct sunlight that could interfere with IR receiver operation. If this is not possible, you should locate the IR receiver away from the keypad.

Avoid mounting keypads in locations that will be exposed to moisture, such as near sinks, showers or bathtubs. If you want to install keypads outdoors, only install them in a covered area with an appropriate weather-proof box.

### Mounting the C4630 SE Keypads

1. If you are using both a Main and Numeric Keypad, connect the Numeric Keypad's 14-pin ribbon cable between both keypads.
   - Connect the ribbon cable so that the wire with the red stripe connects to Pin 1 on both keypads (see *Figure 19*).
2. Mount the keypad(s) in an appropriate J-box or P-ring as described in *Keypad Location*, above.
   - The ribbon cable is long enough to allow a Main and Numeric Keypad to be mounted side-by-side in a double J-box. Either keypad can be mounted left or right.

*NOTE: If the ribbon cable is connected incorrectly the Numeric Keypad (including its backlighting) will not function.*

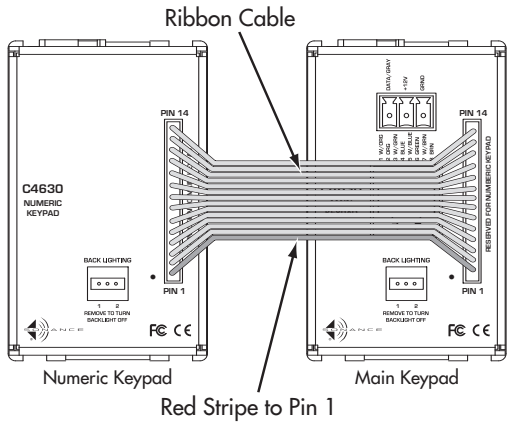


Figure 19: Keypad Ribbon Cable

### Changing the C4630 SE Main Keypad Source Buttons

The Source Selector buttons on the C4630 SE Main Keypad are labeled to indicate the specific sources in use on the system. The keypad comes with the following buttons already installed: Tuner, CD/DVD, Sat, TV/Aux. The keypad also comes with a sheet of replacement Source buttons that are labeled for a wide variety of common source components. To change the Main Keypad Source buttons:

1. If the keypad is connected, disconnect it from the DAB1 and from the Numeric Keypad.
2. Use a screwdriver or similar tool to release the keypad bezel tabs (see *Figure 20*).
3. Remove the keypad bezel and Source buttons from the keypad as shown in *Figure 20*.

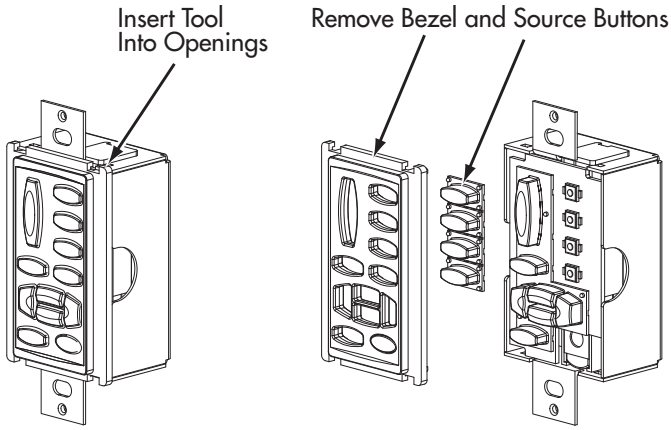



Figure 20: Removing the Source Buttons from the Main Keypad

IMPORTANT: Do not touch the exposed portion of the keypad circuit board.

4. The four Source buttons are a single unit. Use a razor knife or similar tool to remove the button(s) you want to replace.
5. Use a razor knife or similar tool to separate the desired Source button(s) from the sheet of replacement buttons that's included with the keypad.
6. Place all 4 of the desired Source buttons into the keypad bezel. The tabs on the buttons will fit-into the depressions adjacent to the openings on the back of the bezel (see *Figure 21*).
7. Snap the keypad bezel back into place on the keypad.
8. Test all buttons for free movement. If any of the buttons are tight or hang up, carefully remove, realign and replace the bezel.

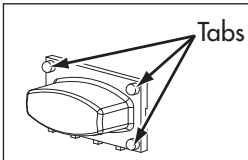



Figure 21: Source Button Tabs

## DAB1 Keypad (see *Figure 22*)

The DAB1 Keypad lets you select the active source and control the zone's volume and muting, as well as providing a ZONE OFF button and a built-in IR receiver.

The ZONE OFF button's LED color indicates the zone's status:

**Red:** Zone is OFF (DAB1 is receiving power)

**Green:** Zone is ON

**Orange (flashing):** Built-in IR receiver is receiving IR commands or a keypad button is being pressed. This occurs even if the Zone is turned OFF

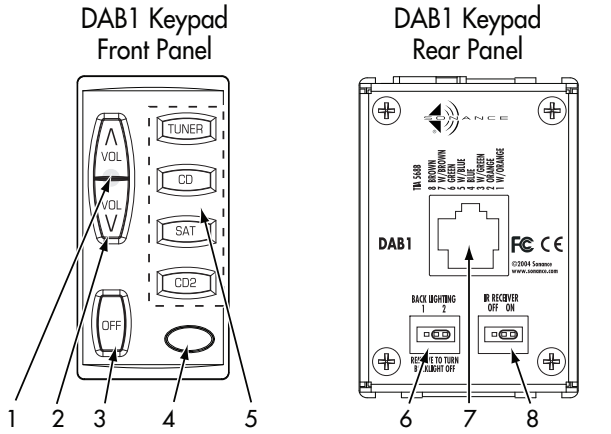



Figure 22: DAB1 Keypad

Each keypad button has three different actions: PRESS, PRESS-AND-HOLD and DOUBLE-PRESS. This allows each button to issue three distinct commands or macros. Out-of-the-box the following button functions are available on the Main Keypad:

**VOLUME UP/DOWN Buttons:** PRESS = Volume UP/Down

**MUTE Button:** PRESS = Mute/un-Mute the local zone; PRESS-AND-HOLD = Mute/un-Mute all zones designated for PARTY MODE (see *Appendix 1: "Party Mode"*, on page 54).

**Zone Source Selector Buttons:** PRESS = Select that source in the local zone; PRESS-AND-HOLD = Select that source in all zones designated for PARTY MODE (see *Appendix 1: "Party Mode"*, on page 54). Pressing a Source Selector button in a zone that is OFF will turn that zone ON.

**ZONE OFF Button:** Turns the local zone OFF; PRESS-AND-HOLD = Turns all zones OFF (see *Appendix 1* on page 54 for information about turning-OFF all zones in systems with multiple DAB1s).

Additional PRESS, PRESS-AND-HOLD, DOUBLE-PRESS, source component control and macro trigger functions require programming with the Sonance Control Manager software. The Sonance Control Manager can also be used to change any of the above out-of-the-box button functions.

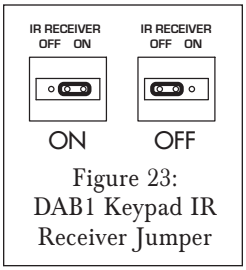



Figure 23: DAB1 Keypad IR Receiver Jumper

### DAB1 Keypad IR Receiver

The DAB1 keypad's built-in IR receiver allows the included IR remote to control the local zone (see *DAB1 IR Remote Control*, on page 25). The IR receiver also passes IR commands from 3rd-party IR remotes to IR emitters that are connected to the COMMON IR Outputs (see *IR Connections*, on page 15). The IR Receiver can be enabled or disabled via a rear-panel jumper (see *Figure 23*).

### DAB1 Keypad Backlighting Jumper

The DAB1 keypad has a rear-panel Backlight Jumper (*Figure 24*) that allows you to adjust the amount of keypad backlighting to suit room lighting conditions and user preference. Position 1 = DIM; Position 2 = BRIGHT; remove the jumper to turn the backlight OFF.

*NOTE: Unless the backlight jumper is removed, the keypad backlighting is always ON, even if the local zone and all zones are OFF.*

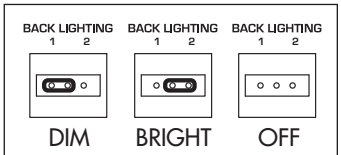



Figure 24: DAB1 Keypad Backlight Jumper

### Configuring DAB1 Keypad Source Buttons

The Source Selector Buttons on the DAB1 keypads can be configured to indicate the specific source components available on the system. The keypad is shipped with the TUNER label already in place for Source 1.

1. If the keypad is connected, disconnect it from the DAB1.
2. Do not remove any screws from the keypad.
3. Remove the keypad bezel as shown in *Figure 25*. Be careful to not let any of the rubber button membranes fall off.

IMPORTANT: Do not touch the exposed portion of the keypad circuit board.

4. Lay the keypad on its back
5. Carefully remove the Source 2 button cap. (If the system is using a source component other than Tuner for Source 1, start with the Source 1 button.)
6. Find the label for the Source 2 source component on the Label Sheet that's included with the keypad. Separate the label from the sheet and place it on the Source 2 button's rubber membrane.
7. Replace the button cap on the Source 2 button's rubber membrane.
8. Repeat Steps 5 – 7 for all Source buttons on the keypad.
9. Snap the keypad bezel back into place.
10. Test all buttons for free movement. If any of the buttons are tight or hang up, carefully remove, realign and replace the keypad bezel.

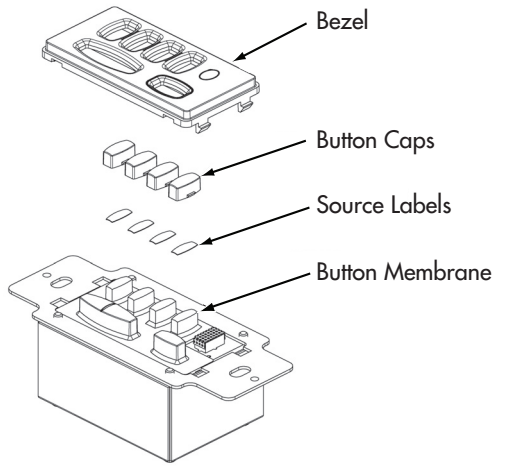



Figure 25:
Replacing DAB1 Keypad Source Labels

### DAB1 Keypad Mounting and Location

The DAB1 Keypad can be mounted in standard single or double J-box enclosures or P-rings.

*NOTE: Do NOT mount the DAB1 keypad in the same electrical box with AC house wiring, light switches, or any other high-voltage device or control. The keypad can share gang boxes with other controls such as A/B speaker switches, infrared receivers and volume controls, if these other devices are rated as Class 2 devices according to the National Electrical Code.*

The DAB1 keypad should typically be located near the entrance to a room, similar in height and location to a light switch (see NOTE, above). Care should be taken to avoid placing the keypad near windows or areas that get direct sunlight that could interfere with IR receiver operation. If this is not possible, you should disable the keypad's IR receiver (see page 22).

Avoid mounting keypads in locations that will be exposed to moisture, such as near sinks, showers or bathtubs. If you want to install keypads outdoors, only install them in a covered area with an appropriate weather-proof box.

## Keypad Connections

1. In direct runs from keypad to controller, pull a length of CAT5 wire from every keypad mounting location to the DAB1 location. The maximum length of any single CAT5 cable is 1000'.
2. Terminate each CAT5 cable with RJ45 connectors on each end. Follow the TIA 568B wiring standard (see *Figure 26*).

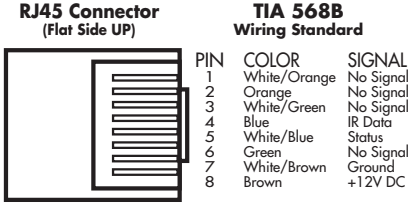



Figure 26:
Keypad Connection RJ45 Pinout

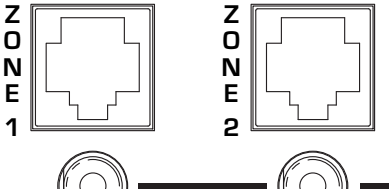



Figure 27:DAB1 Keypad
Controller Ports

3. We strongly recommend testing your connections with an RJ45 network cable tester to check for cable continuity, miswiring, open connections, shorted connections or cross-pinning.
4. Connect the CAT5/RJ45 cable to the RJ45 Connection Jack on the back of the Keypad and to the zone's Keypad Controller Port on the DAB1 (see *Figure 27*).

## External Keypad Power (see *Figure 28*)

The DAB1 supplies 1A of total keypad current through its keypad connections. When the rear-panel ZONE 4 – 6 KEYPAD POWER switch (see *Figure 28*) is in the INT (internal) position this current is evenly divided between all six Zone Keypad Connections. When the switch is in the EXT (external) position, the DAB1 supplies all 1A of current to Zones 1 – 3, while Zones 4 – 6 must be powered by an external PS2 power supply (available separately) connected to the ZONE 4 – 6 KEYPAD EXTERNAL POWER Connection.

The table below shows how many of each type of keypad can be used with internal keypad power, and with a PS2 connected to the KEYPAD EXTERNAL POWER Connection:

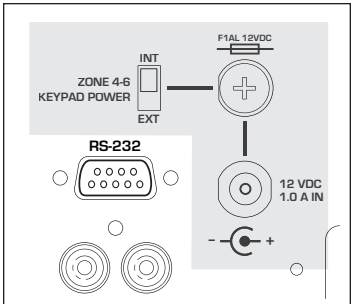



Figure 28:
Keypad External Power
Connection

| ZONE 4 – 6 KEYPAD INTERNAL POWER Switch Position | DAB1 Keypads Max LED Brightness, (Each Draws 52mA) | C4630 SE Main/Numeric Keypads Max LED Brightness, (Each Set Draws 165mA) | K1 Keypads Backlight ON, (Each Draws 70mA) | K2 Keypads Med LED Brightness, (Each Draws 150mA) | K2 Keypads Max LED Brightness, (Each Draws 265mA) |
|---|---|---|---|---|---|
| INT (Internal) Supplies 1A Total | Up to 12 | Up to 6 Sets | Up to 12 | Up to 6 | Up to 3 |
| EXT (External, w/PS2 Power Supply) Supplies 2A Total | Up to 24 | Up to 12 Sets | Up to 24 | Up to 12 | Up to 7 |

See page 49 for additional information about connecting K1 and K2 programmable keypads.

## DAB1 IR Remote Control (see *Figure 29*)

The buttons on the included DAB1 IR remote are programmed to perform the following functions "out-of-the-box":

1. **ALL OFF Button:** PRESS = Turns all zones in the system OFF, including any zones being run by additional DAB1s that are connected via their SYNC connections (see page 16).
2. **ZONE OFF Button:** PRESS = Turns the local zone OFF.
3. **VOLUME UP Button:** PRESS = Turns the local zone's volume UP by one small increment; PRESS-AND-HOLD = Turns the local zone's volume UP continually.
4. **MUTE ON/OFF Buttons:** Issue discrete Mute ON and Mute OFF commands to the local zone.
5. **MUTE Button (Toggle):** PRESS = Toggles Muting ON and OFF in the local zone.
6. **TUNE – Button:** PRESS = Tunes the DAB1's internal FM/AM tuner to the next lower receivable radio station
7. **Tune + Button:** PRESS = Tunes the DAB1's internal FM/AM tuner to the next higher receivable radio station
8. **VOLUME DOWN Button:** PRESS = Turns the local zone's volume DOWN by one small increment; PRESS-AND-HOLD = Turns the local zone's volume DOWN continually.
9. **Zone Source Selector Buttons:** PRESS = Select that source in the local zone; PRESS-AND-HOLD = Select that source in all zones designated for PARTY MODE (see *Appendix 1: "Party Mode"*, on page 54). Pressing a Source Selector button in a zone that is OFF will turn that zone ON.
10. **FM/AM Buttons:** Selects the FM or AM band on the DAB1's internal tuner.
11. **Tuner Presets 1 – 12:** Directly select the 12 tuner preset stations as programmed in the Sonance Control Manager or via the DAB1's front panel controls.
12. **Source Component Controls:** These buttons have no "out-of-the-box" functions, but can be programmed in the Sonance Control Manager to control source components. Although the buttons are labeled with STOP, PLAY, SKIP BACKWARD and SKIP FORWARD icons, you can use the Sonance Control Manager to program them to perform any function desired by the user.

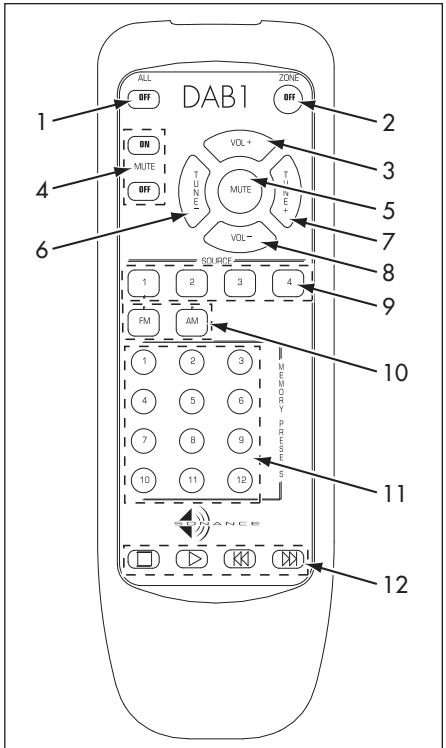
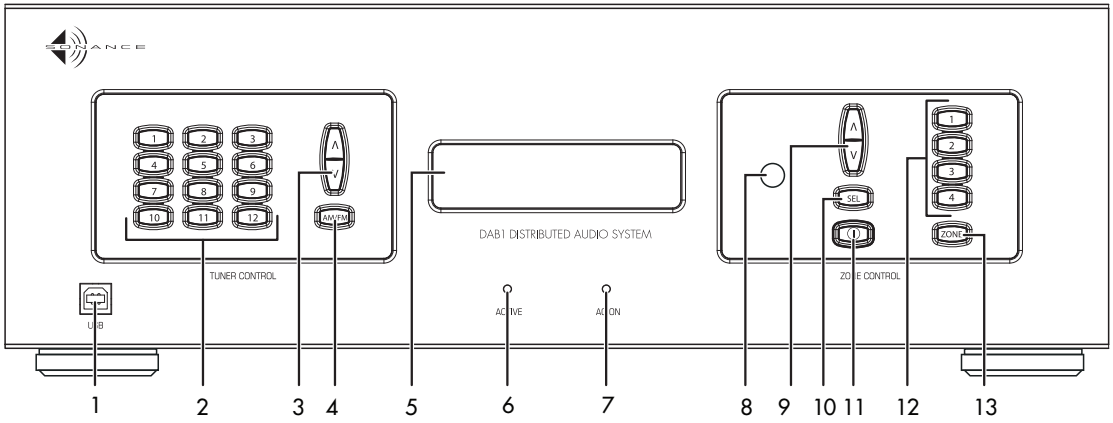



Figure 29: DAB1 IR Remote Control

*NOTE: The remote's keypad is covered with a removable film to protect it during manufacture and shipping.*

## DAB1 Front Panel Controls and Indicators (see *Figure 30*)

Figure 30:
DAB1 Front-Panel




1. **USB Port:** Connects the DAB1 to a USB-capable computer for programming via the Sonance Control Manager software.
2. **Tuner Preset Buttons:** Tunes the DAB1's internal FM/AM tuner to any of 12 previously-programmed FM or AM stations.
3. **Tuner UP/DOWN Buttons:** Tunes the DAB1's internal FM/AM tuner to the next higher or next lower receivable radio station.
4. **FM/AM Selector Button:** Switches the DAB1's internal tuner between FM and AM reception.
5. **System Status/Tuner Display:** Displays the following information: System ON/OFF Status, Zone Being Controlled, Zone ON/OFF status, Zone Source Selection, current radio station, status of Zone Volume, Mute, Treble, Bass, Balance and Paging Volume.
6. **Active LED:** Illuminates green whenever any zone run by the DAB1 is ON.
7. **AC ON LED:** Illuminates red as long as the DAB1's power cord is plugged-into a live outlet.
8. **IR Receiver:** Allows direct control of the DAB1 by the included IR remote control. The IR Receiver also passes IR commands from the DAB1 IR remote control (and when the rear-panel IR Pass-Through switch is ON, IR commands from 3rd-party remotes) through to the rear-panel Common IR outputs.
9. **Zone Function Value Buttons:** Operates in tandem with the Zone Function Select Button (#10). Modifies the following parameters in the Zone being controlled: Volume Offset, Treble, Bass, Balance and Paging Volume. Mutes/Un-mutes the Zone when the center of the double button is pressed.
10. **Zone Function Select Button:** Selects between Volume, Treble, Bass, Balance and Paging Volume for the Zone being controlled. When the button is pressed and held for 10 seconds the display shows the Firmware version installed. Press the Zone Power Button (#11) to return to the menu.
    - To lock-in changes made to a Zone's the Volume Offset, Treble, Bass, Balance and Paging Volume:

      a) Hold-down the Zone Function Select button for 15 seconds

b) The firmware version number will be displayed, followed by the Tuner versions.

c) When the Tuner version number disappears, press the Zone Function Select button again.

d) Press the FM/AM Selector button (#4) to lock-in the settings.

e) Press the Zone Power button (#11) to exit.

11. **Zone Power OFF Button:** Press = Turns the Zone being controlled OFF. PRESS-AND-HOLD = Turns all Zones OFF.
12. **Source Select Buttons (1 – 4):** PRESS = Selects that source in the zone being controlled by the Front-Panel Buttons; PRESS-AND-HOLD = Selects that source in all zones designated for PARTY MODE (see *Appendix 1: "Party Mode"*, on page 54). Pressing a Source Select button for a zone that is OFF will turn the zone ON.
13. **Zone Select Button:** Selects the Zone that is controlled by the Front-Panel Buttons and displayed in the Status Window. The selected Zone is shown in the upper left corner of the Status Window as Z1 – Z6 (for Zones 1 – 6) or ZA (for ALL Zones).

*Note: When adjusting Volume with ALL Zones selected, each Zone's Volume change relative to its individual settings. i.e. If Zone 1 is set to "12" and Zone 2 is set to "14", if Volume UP is pressed 2 times in the ALL Zones mode, Zone 1 will change to "14" and Zone 2 will change to "16".) (Volume levels are not displayed in "All Zones" mode.)*

## Sonance Control Manager Software

The DAB1 comes with a CD-ROM containing the Sonance Control Manager programming software that lets you program all of the DAB1's operational and sonic parameters. In addition to adjusting each zone's sonic performance you can also program the buttons on keypad controllers to perform individual functions and to combine literally dozens of different functions into macros that can be triggered by a single keypad button push.

*NOTE: In addition to programming the DAB1, the Sonance Control Manager software can also be used to program the C4630 SE. C4630 SE programming is explained in the C4630 SE Instruction Manual.*

### Installing the Sonance Control Manager Software

1. Place the included SONANCE CONTROL MANAGER CD-ROM in your computer's CD drive.
2. The installer will automatically launch. Follow the instructions to install the program.

**If the installer does not automatically launch:**

1. Go to your computer's START menu and select RUN.
2. Use the BROWSE function to navigate to the SONANCE CONTROL MANAGER CD.
3. Double-click on INSTALLER.EXE and follow the instructions to install the program.

Sonance Control Manager is compatible with these Windows operating systems:

**Windows 2000 series**

**Windows XP Home**

**Windows XP Professional**

Sonance Control Manager is *NOT* compatible with any Apple/MacIntosh operating system.

## Transferring System Information to the DAB1

All programming that you perform in the Sonance Control Manager must be transferred from your computer to the DAB1 unit via its front-panel USB connection (see *Figure 31*). The DAB1 comes with a USB cable that connects between the USB connector and your computer.

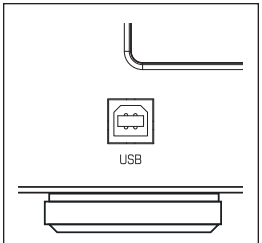



Figure 31:
USB Connection

Before you can transfer programming to the DAB1 via the USB port, you must initialize the DAB1 to your computer. To do this, provide power to the DAB1 then connect the USB cable between it and your computer. Your computer should recognize the DAB1 and automatically install the required drivers to the appropriate folders.

If your computer does not recognize the DAB1, you can go to the computer's Device Manager (under CONTROL PANEL>SYSTEM>HARDWARE>DEVICE MANAGER) and induce the computer to scan for new hardware attached by selecting SCAN under the ACTION option at the top of the window.

**To transfer programming to the DAB1:**

1. Program the Sonance Control Manager software as described in the sections below.
2. When the programming is completed, connect the included cable between the DAB1's USB connection and your computer.
3. Open the COMMUNICATION menu and select SEND TO DEVICE. The DEVICES IN THE CURRENT SYSTEM screen (*Figure 32*) will appear. All DAB1s in the system will be listed in the window.
4. Click on the SEND button for the DAB1 to which you want to transfer the programming.

Once the data transfer is complete, close the DEVICES in the CURRENT SYSTEM window and disconnect the USB cable from the DAB1. The DAB1 will then resume operation according to the new programming.

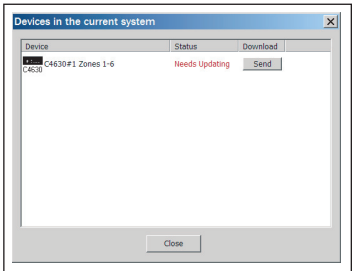



Figure 32: DEVICES IN THE CURRENT SYSTEM Screen

## Updating the Sonance Control Manager Software and Firmware

Sonance may from time to time make upgrades to the Sonance Control Manager software and the DAB1 firmware available via the Sonance website (www.sonance.com). To check for the latest versions go to www.sonance.com and select the ELECTRONICS category. From there, select the DAB1 and go to the DOWNLOADS section. Note the version numbers of SONANCE CONTROL MANAGER and DAB1 firmware that are listed.

**Upgrading Sonance Control Manager Software**

To check which version of Sonance Control Manager is loaded on your computer, launch the Sonance Control Manager program, select the HELP menu, then scroll down to ABOUT. The box shown in *Figure 33* will appear. If the software version on the computer is earlier than the one listed on the Sonance website:

1. Follow the instructions on the website to download the newer version of Sonance Control Manager onto your computer.
2. Unzip the SETUP.EXE file and double-click it. Follow the instructions to install the program.

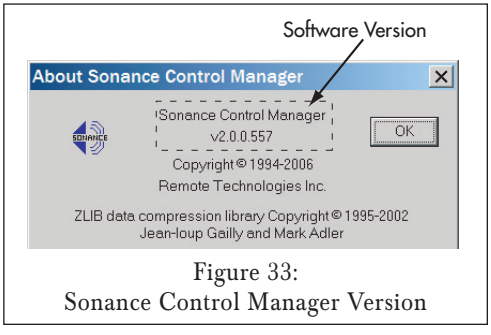



Figure 33:
Sonance Control Manager Version

### Upgrading the DAB1 Firmware

To check which version of DAB1 firmware is loaded on the unit, connect the USB cable between the DAB1 and your computer and launch the Sonance Control Manager program. Open the COMMUNICATIONS menu and select GET FIRMWARE VERSION. The FIRMWARE VERSION INFO screen (*Figure 34*) will appear. If the firmware version in the DAB1 is earlier than the one listed on the Sonance website:

Figure 34:
FIRMWARE VERSION INFO Screen

1. Follow the instructions on the website to download the newer version of the DAB1 firmware onto your computer.
2. Unzip the new firmware file and save it in a convenient location on your computer.
3. Open the COMMUNICATIONS menu and select UPDATE FIRMWARE. The SELECT NEW FIRMWARE IMAGE browser window will open.
4. Use the browser window to navigate to the new firmware file you just saved and click OPEN.
5. The warning screen shown in *Figure 35* will appear:
   - **If the DAB1 unit has programming that you want to save**, click CANCEL. Open the COMMUNICATIONS menu and select RECEIVE FROM DEVICE. The programming in the DAB1 will be saved as a new device in the open system. Proceed to Step 6.
6. Click OK. The DAB1's firmware will be upgraded. (The program in the DAB1 will be erased).
7. To reprogram a DAB1 with the program you saved in Step 5, see *Transferring System Information to the DAB1*, on page 28.

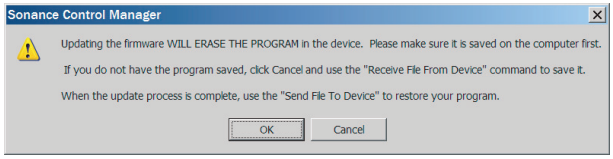

Sonance Control Manager
Updating the firmware WILL ERASE THE PROGRAM in the device. Please make sure it is saved on the computer first.
If you do not have the program saved, click Cancel and use the "Receive File From Device" command to save it.
When the update process is complete, use the "Send File To Device" to restore your program.
OK
Cancel

Figure 35:
Upgrade Firmware Warning Screen

*NOTE: If the Communications Window opens after Step 6, unplug and reconnect the USB cable. The Sonance Control Manager will automatically send the firmware update.*

## Creating a New DAB1 System

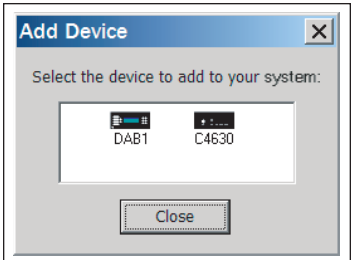



Figure 36:
ADD DEVICE Box

1. Launch SONANCE CONTROL MANAGER. An empty SONANCE CONTROL MANAGER screen will appear.
2. Open the FILE menu and select NEW to create a new system. Choose a name for the system and save it.
3. The ADD DEVICE box (*Figure 36*) will appear. Select DAB1. The DEVICE screen (*Figure 37*) will appear.
4. Open the DEVICE menu and select GENERAL SETUP. The GENERAL SETUP screen (*Figure 38*) will appear.
   - Check the box if you want to activate the Paging function for this DAB1 (see page 17).
   - If the system will incorporate more than one DAB1, use the drop-down box to assign a different UNIT ID number to each DAB1.
5. If the system will have multiple DAB1s, repeat Steps 3 & 4 for each unit in the system.
   - See pages 16 – 17 for information about linking the SYNC connections, PAGING connections and IR connections of multiple DAB1s together in a system.

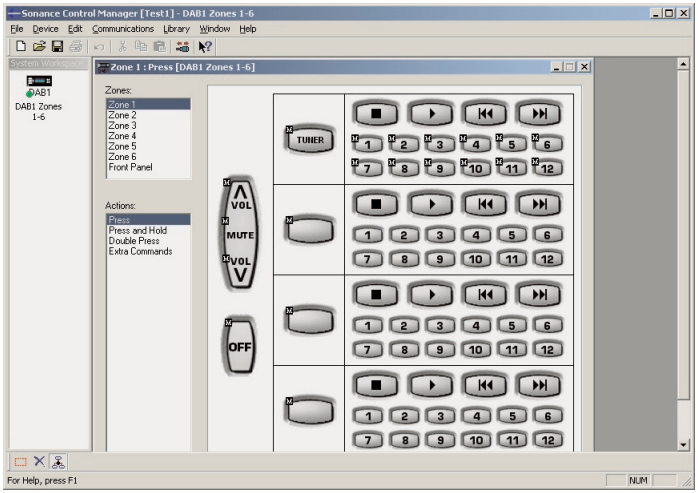



Figure 37:
DEVICE Screen

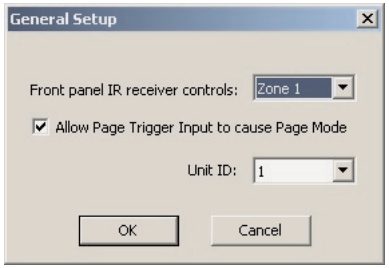



Figure 38:
GENERAL SETUP Screen

6. Open the FILE menu and select JOB INFO:
   - The DEALER tab (*Figure 39*) allows you to record information about the particular job, including system design notes, firmware upgrades, etc. This information is not transferred to the DAB1 — it is saved only in the system program file in your computer.
   - The CLIENT tab (*Figure 40*) gives you a place to record your client's contact information, along with information about the general contractor, interior designer. etc. Like the DEALER information, the CLIENT information is saved only in the system program file in your computer and is not transferred to the DAB1.

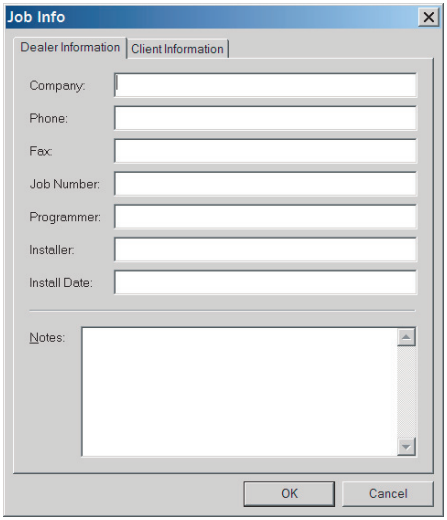



Figure 39:
JOB INFO Screen DEALER Tab

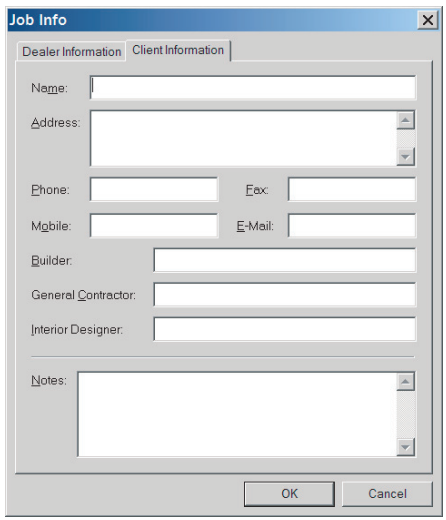



Figure 40:
JOB INFO Screen CLIENT Tab

### Renaming DAB1s in a System with Multiple Units

To minimize confusion when programming systems with multiple DAB1s we recommend that you rename each unit to identify it, such as "DAB1 #1 Zones 1-6", and "DAB1 #2, Zones 7-12".

In the SYSTEM WORKSPACE area of the Device screen (see *Figure 41*), select each DAB1 in the system and rename each one with a different name.

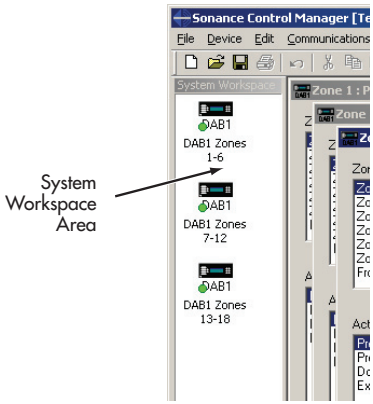



Figure 41:
The SYSTEM WORKSPACE Area

## Setting Up a Zone

The DAB1 gives you a great deal of flexibility in setting each zone's operational and audio parameters. Open the DEVICE menu and select ZONE SETUP. The ZONE SETUP screen (*Figure 42*) will appear.

*NOTE: Any changes made on the* Zone Setup *screen must be transferred to the DAB1 via the USB connection before they will take effect. See* Transferring System Information to the DAB1, *on page 25.*

**Zone Name:** You can rename the zone by highlighting the name that appears in the NAME box and typing a new one.

**ALLOW PAGING IN THIS ZONE:** Check this box if you want to enable Paging in the zone.

*NOTE: The Paging function in the GENERAL SETUP screen must be enabled to allow paging in any zone (see* Step 4 *of* Creating a New DAB1 System, *on page 30).*

**ALLOW PARTY MODE IN THIS ZONE:** Check this box if you want this zone to be enabled for Party Mode operation. Party Mode links the SOURCE, MUTE and ON/OFF functions of enabled zones. For more information about Party Mode operation, see *Appendix 1: "Party Mode"*, on page 54.

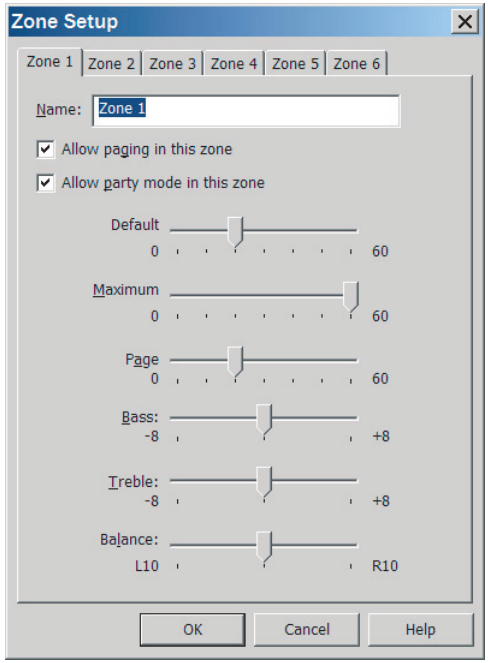



Figure 42:
ZONE SETUP Screen

- When a source is selected with a PRESS-AND-HOLD, any zones enabled for Party Mode will turn ON to their DEFAULT VOLUME settings (see below). Any zones enabled for Party Mode that are already ON will switch to the selected source.
- You can use a keypad controller or the remote control to adjust the volume level in a zone that is enabled for Party Mode.

**Default Volume:** This slider sets the zone's turn-on volume. The zone will always turn ON at this volume no matter what the zone's volume was set at when it was turned OFF.

**Maximum Volume:** This slider sets the zone's maximum volume level. By setting this to a level that eliminates distortion and prevents over-driving the speakers you can avoid damage to speakers and in-wall volume controls.

- During normal use, once a zone has reached its maximum volume, pressing the VOLUME UP button on a keypad or the remote control will not increase the zone's volume level.

**Page Volume:** This slider sets the Paging volume in the zone. Set this to a level that allows the paging device to be clearly heard in the zone without distortion or over-driving the speakers.

*NOTE: Be sure to check the Page Volume with the actual paging device after the system is installed to correct for too low or too high a level, feedback, etc.*

**Bass, Treble and Balance:** These sliders set the bass level, treble level and left/right stereo balance in the zone.

*NOTE: When the zone output's* Fixed/Variable *button is in the* Fixed *position, the zone's* Default, Maximum *and* Page Volume, Bass, Treble *and* Balance *adjustments are disabled for the zone's Line Outputs. See page 13.*

## Setting Up Sources

The SOURCE SETUP screen allows you to set up the four source inputs.

1. Open the DEVICE menu and select SOURCE SETUP. The SOURCE SETUP screen (*Figure 43*) will appear.
2. Use the drop-down box to identify the particular type of component connected to that set of source connections. If the list doesn't include a suitable name you can type one of your own into the box.
3. Use the VOLUME OFFSET slider to adjust the input level of the source component. This lets you balance the output levels of the different source components so they will play at (or very close to) the same volume:
   a) Play program material on all of the connected source components. (Use similar material on all sources so your adjustments will reflect the output levels of the source components rather than the differences in the program material.)
   b) Use a keypad controller or the remote control to switch between the sources until you get a good feel for their relative volume levels.
   c) Adjust the VOLUME OFFSET sliders of the four sources as needed to compensate for different output levels.
   d) Transfer the new programming to the DAB1 via the USB connection. (See *Transferring System Information to a DAB1*, on page 25.)
   e) After the transfer is complete unplug the USB cable from the DAB1 and switch between the sources while they're playing to test your changes.
   f) Repeat steps a) through e) as needed until all of the sources play at approximately the same volume.

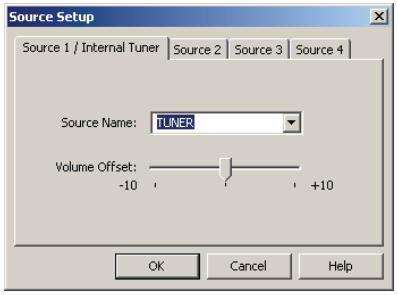



Figure 43:
SOURCE SETUP Screen

*NOTE: When a Zone Output Fixed/Variable button is in the FIXED position, the zone's Source Volume Offset adjustment is disabled for its Zone Line Outputs. See page 13.*

# Programming Keypad Macros for the DAB1

All commands executed by C4630 SE Main and Numeric Keypads and DAB1 Keypads must be programmed into the the buttons as macros. Even the keypad functions that operate "out-of-the-box" are actually macros that have been factory-programmed into the buttons. Macros can range in complexity from a single DAB1 internal function all the way to extremely sophisticated procedures that involve DAB1 internal commands, IR commands to various system components, timing delays, RS-232 commands and conditional instructions.

## Device Screen (see *Figure 44*)

The BUTTON ACTION SELECTOR lets you program each of the three levels of action for each button: PRESS, PRESS-AND-HOLD, and DOUBLE-PRESS (EXTRA COMMANDS is covered on page 50). Each of these different actions can be programmed with its own function or macro. Once a button has been programmed with a function or macro a MACRO INDICATOR appears on its upper-left corner.

The ZONE SELECTOR lets you select each of the six zones, and the DEVICE SELECTOR lets you select different DAB1s (if the system has more than one).

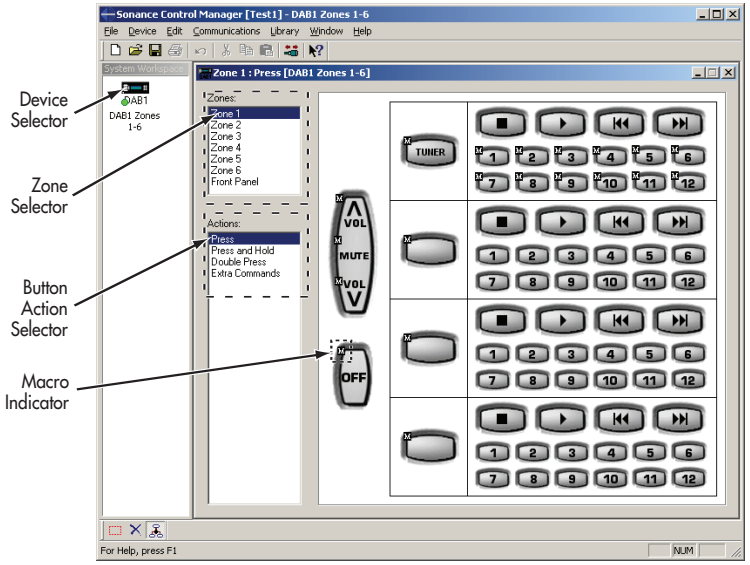



Figure 44: DEVICE Screen

## General Macro Programming Notes:

1) There is no POWER ON button or command. Pressing a SOURCE SELECT button in an inactive zone will turn the zone ON in addition to selecting the source component.

2) Any time a macro is programmed to a button in the PRESS level, it is necessary to include the DAB1 Internal Command for that button's default function (see *Internal Commands*, on page 41). For example, when programming a macro for a CD source select button that will select SOURCE 2 in ZONE 1, delay 2 seconds and include a PLAY command to be routed to Programmed IR Port 2, the macro would be:

   **Step 1: Internal Command / [This Unit] [This Zone] Select Source 2**

   **Step 2: Pause for 2 Seconds**

   **Step 3: Port 2 / [Brand/CD Player/Model #] / Play**

3) It is necessary to include the Port number and use the PROGRAMMED IR jacks when using multiple same-brand same-model components, such as two identical CD Changers. (The default PROGRAMMED IR Port settings match the four input sources: Programmed IR Port 1 = Source 1, etc.)

4) The DAB1 is factory-programmed for the following keypad functions:

- **Press any Source Button:** Turns the local zone ON with that source.
- **Press-And-Hold any Source Button:** Activates PARTY MODE with that source for all zones.
- **Press the Volume UP/DOWN Buttons:** Raise and lower the volume in the local zone.
- **Press the Mute Button (C4630 SE Main Keypad); Press the center of the Volume UP/DOWN button (DAB1 Keypad):** Mutes/un-Mute the local zone.
- **Press-And-Hold the Mute Button (C4630 SE Main Keypad); Press-and-Hold the center of the Volume UP/DOWN button (DAB1 Keypad):** Mutes/un-Mutes all zones designated for PARTY MODE.
- **Press the Zone OFF Button:** Turns the local zone OFF.
- **Press-And-Hold the Zone OFF Button:** Turns all zones designated for PARTY MODE OFF.
- **Press buttons 1 through 12 (DAB1 Keypad):** Selects tuner presets 1 through 12.
- **Press buttons 1 through 0 (C4630 SE Numeric Keypad):** Selects tuner presets 1 through 10.
- **Press buttons "–" and "+" (C4630 SE Numeric Keypad):** Selects tuner presets 11 and 12.

5) A Repeat Until Button Is Released command in the Press level will defeat the Press-And-Hold level for that button.

## Building Macros

Individual keypad button macros are programmed in the Macro Editor window. To open Macro Editor:

1. Open the Device screen (see *Figure 44,* opposite).
2. If the system has more than one DAB1, use the Device Selector (see *Figure 41*) to select the one you want to program. The Zone 1 programming screen for that DAB1 will appear (see *Figure 45*).
   - The Zone 1 programming screen will include one set of Volume Up/Down, Mute and Zone OFF buttons and four sets of Zone Source Control and numeric buttons (one for each source). The source names you selected on the Source Setup screen (see *Figure 43*, on page 33) will appear on the four Source buttons.
3. Right-click on the button you want to create or modify a macro for.
   - If the button already has been programmed with a macro (a Macro Indicator appears on the button) select Edit Macro.
   - If the button has not been programmed with a macro (no Macro Indicator appears on the button) select Create Macro. The Macro Editor screen will appear. See *Figure 46*, on page 36.

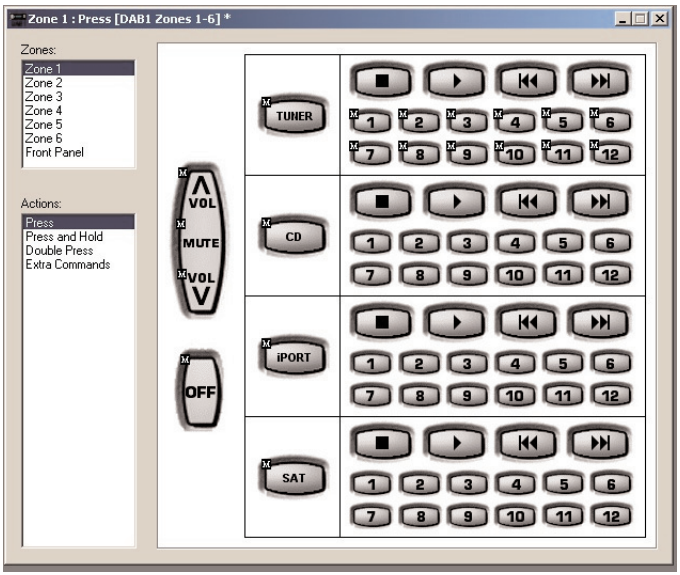



Figure 45: Zone 1 Programming Screen

## The Macro Editor Screen *(see Figure 46)*

**Macro Window:** Displays each step of the macro programmed into the selected button. Each line shows one action of the macro sequentially, with the first action at the top. If a macro has not been programmed-into the button the MACRO WINDOW for that button will be empty.

You create macros by dragging commands into the MACRO WINDOW (see below). You can place a new command anywhere in the macro sequence, and you can change the order of existing commands by dragging them into different positions in the macro sequence.

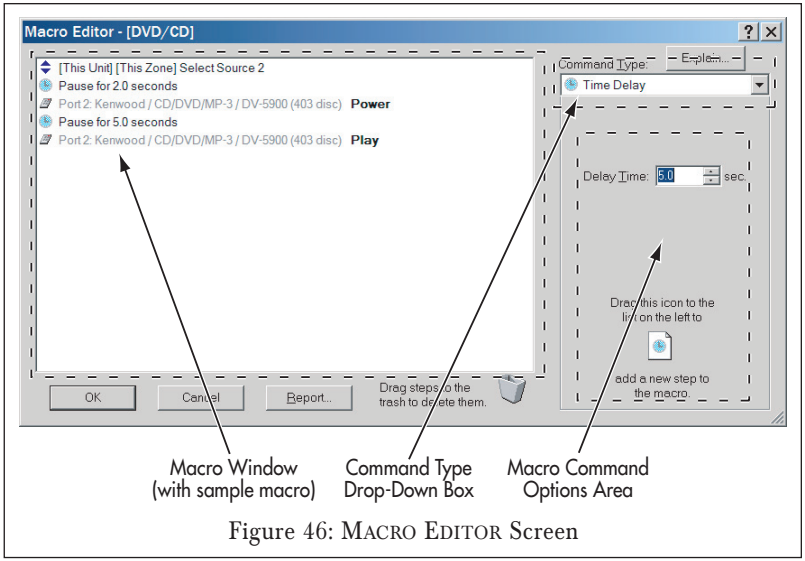

Macro Editor - [DVD/CD]
[This Unit] [This Zone] Select Source 2
Pause for 2.0 seconds
Port 2: Kenwood / CD/DVD/MP-3 / DV-5900 (403 disc) Power
Pause for 5.0 seconds
Port 2: Kenwood / CD/DVD/MP-3 / DV-5900 (403 disc) Play
Command Type:
Time Delay
Delay Time: 5.0 sec.
Drag this icon to the line on the left to add a new step to the macro.
OK
Cancel
Report...
Drag steps to the trash to delete them.
Macro Window (with sample macro)
Command Type Drop-Down Box
Macro Command Options Area

Figure 46: MACRO EDITOR Screen

**Command Type Drop-Down Box:** Use this drop-down box to access all the different macro commands that the DAB1 can generate. Command types include: COMMAND FROM LIBRARY (IR), INTERNAL COMMAND, STATUS TEST, RS-232 COMMAND, TIME DELAY, STOP MACRO, REPEAT STEPS and TOGGLE IR CODE. See MACRO COMMAND TYPES, below, for details.

**Macro Command Options Area:** Different types of macro commands will have different options for you to select when building a macro. Those options will appear in this area. (The SET DELAY TIME option for the TIME DELAY command is shown.)

## Macro Command Types

### Command From Library (IR Commands)

The DAB1 uses IR commands sent from its COMMON and PROGRAMMED IR outputs (see *IR Connections*, on page 15) to control other A/V components in the system. The Sonance Control Manager comes with an extensive Master IR code library consisting of thousands of IR commands for most brands and A/V components that would likely be used in a whole-home audio system.

#### ADDING AN IR COMMAND TO A MACRO

For this example we'll program the STOP button for ZONE 1, SOURCE 2 to control a Kenwood Sovereign DV-5900M DVD changer, with the PAUSE command on the PRESS level and the STOP command on the PRESS-AND-HOLD level:

1. Open the system and select the DAB1. the Zone Programming Screen (*Figure 45*, on page 35) will appear.
2. Select ZONE 1 and the PRESS button action level.
3. Right-click on the Source 2 STOP button and select CREATE MACRO. (If the button is already programmed with a macro select EDIT MACRO). The MACRO EDITOR screen will appear.
   - If COMMAND FROM LIBRARY does not appear in the COMMAND TYPE window, use the drop-down box to select it.
4. Click on SELECT NEW REMOTE and scroll down the list to the device you want to control.

*NOTE: If the desired remote is not in the library, try using a similar product remote from that manufacturer. If that doesn't work, see* Adding IR Codes to the User IR Library with the OptiLinQ® IR Learner, *on page 39.*

5. Select the device. Its commands will appear in the small IR COMMAND WINDOW on the MACRO EDITOR Screen (see *Figure 47*).
6. Select the desired command in the list and drag it to the screen's large MACRO window. (In this example, the PAUSE command — see *Figure 48*).
7. Click OK. The MACRO EDITOR screen will disappear. There should now be a MACRO INDICATOR on the Source 2 STOP button on the PRESS level.
8. Select the PRESS-AND-HOLD button action level. The MACRO INDICATOR should disappear from the Source 2 STOP button.
9. Right-click on the Source 2 STOP button.
10. Select the STOP command from the IR Command Window and drag it into the MACRO WINDOW.
11. Click OK. MACRO EDITOR screen will disappear. There should now be a MACRO INDICATOR on the Source 2 STOP button on the PRESS-AND-HOLD level.

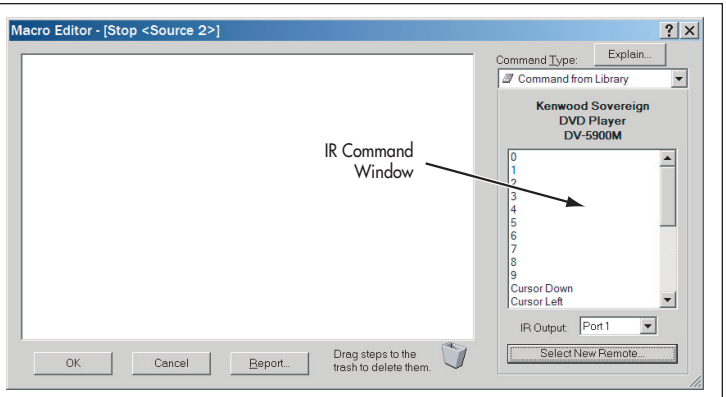



Figure 47:
MACRO EDITOR Screen with IR COMMAND LIBRARY Selected

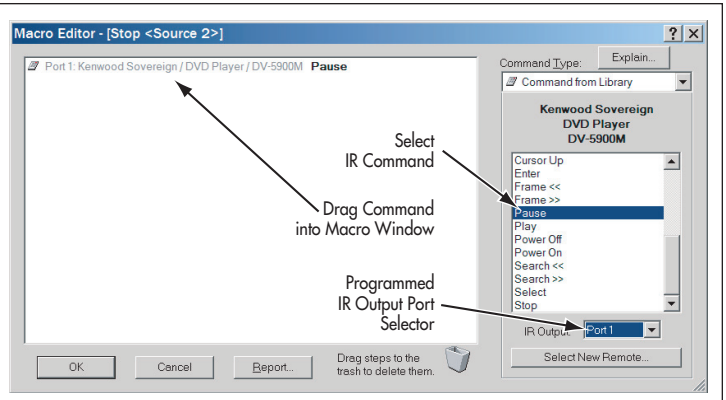



Figure 48:
Dragging Commands into the MACRO WINDOW

### PROGRAMMED IR OUTPUT PORT SELECTOR

The default PROGRAMMED IR Port settings match the four input sources: Programmed IR Port 1 = Source 1, etc. You can use the PROGRAMMED IR OUTPUT PORT SELECTOR to route the commands to other ports by selecting the desired port *before* you drag the command into the MACRO WINDOW.

In a system that has duplicate same-make/same-model source components, routing macro IR commands out of the COMMON IR outputs will cause both of those components to respond to all macro commands for that component. If you want to retain individual control of the components in macros you will need to connect IR emitters to two PROGRAMMED IR outputs and create separate macro commands for each component, with those commands routed to individual PROGRAMMED IR outputs for each component.

For example, in a system with duplicate CD changers connected to the DAB1's SOURCE 3 and SOURCE 4 inputs, connect the IR emitter for the SOURCE 3 CD player to PROGRAMMED IR OUTPUT #3 and the IR emitter for the SOURCE 4 CD player to PROGRAMMED IR OUTPUT #4. Make sure that all of the IR macro commands for the SOURCE 3 CD player are routed to PROGRAMMED IR PORT

3, and that all the IR macro commands for the SOURCE 4 CD player are routed to PROGRAMMED IR PORT 4. This way each CD player will receive only the commands intended for it.

### MODIFYING THE IR LIBRARY

To add new remotes or change commands in the MASTER IR Library you must first create a USER IR Library. This preserves a clean copy of the MASTER IR Library and prevents codes from inadvertently being deleted or improperly edited.

To modify the MASTER IR Library:

1. Open the Sonance Control Manager, open the LIBRARY menu and select IR LIBRARY MANAGER. The IR LIBRARY MANGER (*Figure 49*) window will open.
2. Select and left click the USER.CML folder in the left-hand window.
3. Open the REMOTE menu and select IMPORT. The IMPORT FROM IR LIBRARY browser window will open.

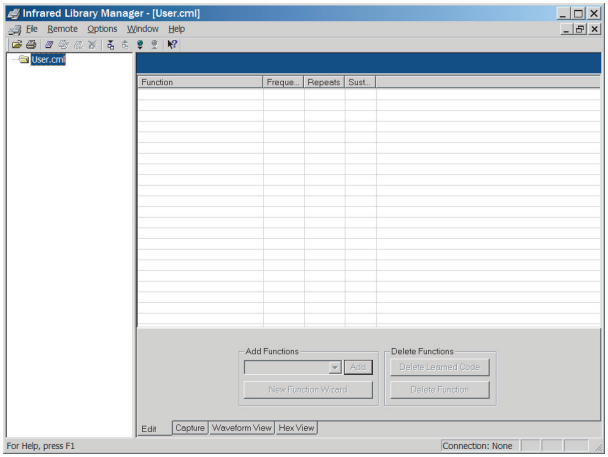



Figure 49: IR Library Manager

4. Navigate to the SONANCE CONTROL MANAGER program folder. (It will be located in the PROGRAM FILES folder in your computer's main hard drive — usually the C: drive.) Double-click the folder to open it.
5. Double-click the COMMAND LIBRARIES folder. The MASTER.CML and USER.CML libraries will appear in the window. Select MASTER.CML and click OPEN. The entire MASTER IR LIBRARY will be imported into the USER.CML library. (The process will take a couple of minutes.)
6. When the process is complete the IMPORT SUCCESSFUL window will open. This is a list of all the remotes imported into the USER.CML folder. You can scroll-through it for reference. Click OK when you're finished.

At this point the IR LIBRARY MANAGER will look like *Figure 50*, with all BRAND/COMPONENT/REMOTE folders open. To clean-up the window:

1. Open the FILE menu and select CLOSE. The USER library will close.
2. Open the FILE menu again and select OPEN. Select USER.CML in the browser window. The library will open, with all brands listed alphabetically.

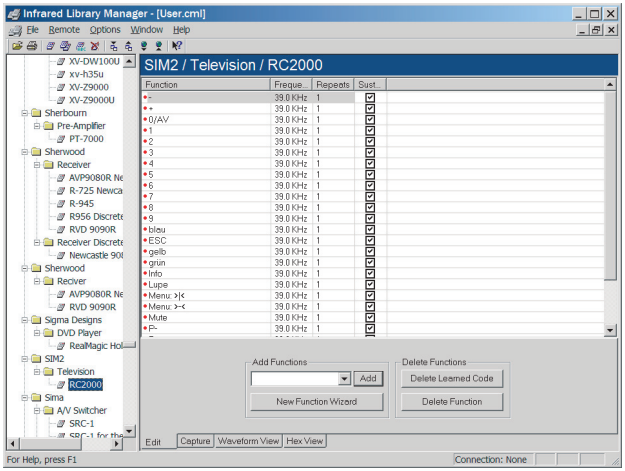



Figure 50: USER.CML IR Library Folder After Import Process

### Editing IR Commands in the User IR Library

The commands in the User IR library will almost always work without editing. However, to get some commands to work you may need to rename a particular function or change its IR carrier frequency, the number of times it is repeated or its sustain characteristic. You can do this in the IR Library Manager window.

To edit an IR command for a particular remote:

1. Click on that remote in the left-hand window of the IR Library Manager screen.
2. Click on the Edit tab. The remote's functions will appear in the main part of the screen (see *Figure 51*).

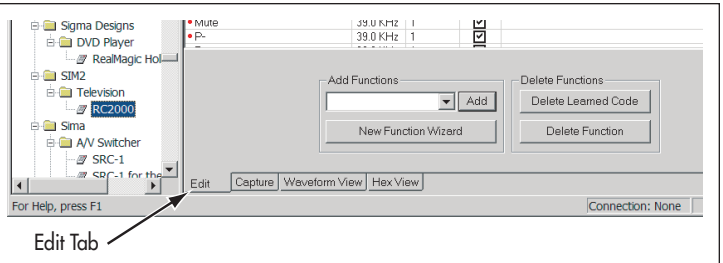



Figure 51:
IR Library Manager Edit Tab

You can change the remote function's name (not its IR code), its IR frequency, the number of times it is repeated each time a button is pressed and whether it is to be repeated while the button is held-down (commands in macros are not repeated). Click on the parameter you want to change to highlight it and type-in the new value (for Repeat, check or un-check the box).

*NOTE: Typically there should be no reason to change any of these parameters. A component may not respond to an IR code if you alter any of these parameters to incorrect values.*

### Adding IR Codes to the User IR Library with the OptiLinQ® IR Learner

On occasion, there may be a particular component or command that is not in the User IR library. You can add IR commands to the User IR Library by learning the command using the Sonance OptiLinQ® IR Learner (part #92071, available separately).

1. Open Sonance Control Manager and open the Library menu. Select IR Library Manager. The IR Library Manager window (*Figure 49*, opposite) will open.
2. Open the User.cml command library. If the User.cml library does not appear in the window you will have to navigate to it:
   a) Open the File menu and select Open. A browser window will appear.
   b) Navigate to the Sonance Control Manager program folder. (The default location for the IR library folder is: C: > Program Files > Sonance > Sonance Control Manager > Command Libraries.) Double-click the folder to open it.
   c) Double-click the Command Libraries folder. The Master.cml and User.cml libraries will appear in the window. Select User.cml and click Open. The User.cml library will now appear in the IR Library Manager window.
3. If you're adding codes to a remote that's already in the User.cml library, select it in the left-hand window. If the remote isn't in the User.cml library, create a new remote:
   a) Open the Remote menu and select New. The Create New Remote screen (*Figure 52*) will appear.
   b) Use the drop-down boxes to enter the remote's manufacturer, type and model. If the manufacturer, type or model you need don't appear in the drop-down menus you can type them in.

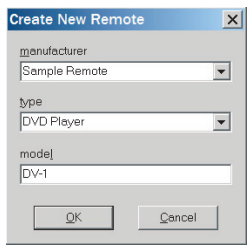



Figure 52:
Create New Remote Screen

- The remote will automatically be added to the USER.CML library.

4. Use the ADD FUNCTIONS drop-down box (see *Figure 53*) to add the names of the new remote functions you're going to capture. Select the function names in the drop-down box and click the ADD button to add them to the remote.
   - If you're creating a new remote you can use the NEW FUNCTION WIZARD to add all of the function names typical for that type of remote and use the DELETE FUNCTIONS button to delete the ones that aren't on the remote you're going to capture.
5. Connect the OptiLinQ IR Learner to your PC using the included USB cable. The MODE LED on the IR Learner should be RED.
6. Place the OptiLinQ IR Learner on a flat surface near your PC.
7. Place the remote control to be captured directly in front of the OptiLinQ IR Learner. The remote's IR transmitter should be 3 – 6 inches from the IR Learner's IR capture window.
8. Select the CAPTURE tab on the Infrared Library Manager screen (see *Figure 54A*). The MODE LED on the OptiLinQ IR Learner should change to ORANGE.
9. To ensure that the remote's IR emitter is properly aligned with the IR Learner's IR receiver, press and hold any button on the remote control for 3 seconds and verify that:

   a) The SIGNAL LED on the OptiLinQ IR Learner flashes RED,

   b) The IR LIBRARY screen flashes the word SIGNAL in RED and displays the IR carrier frequency of the received signal (see *Figure 54B*).

   If a) and b) do not happen, adjust the remote's position relative to the IR Learner and repeat Step 9.

   If a) and b) do happen, press a few more buttons on the remote to ensure consistent results.

*NOTE: Step 9 must be repeated every time before a new remote is captured or whenever you enter the Capture Mode.*

10. Click the LEARN button on the IR LIBRARY screen (*Figure 54C*). The MODE LED on the OptiLinQ IR Learner should change to GREEN.

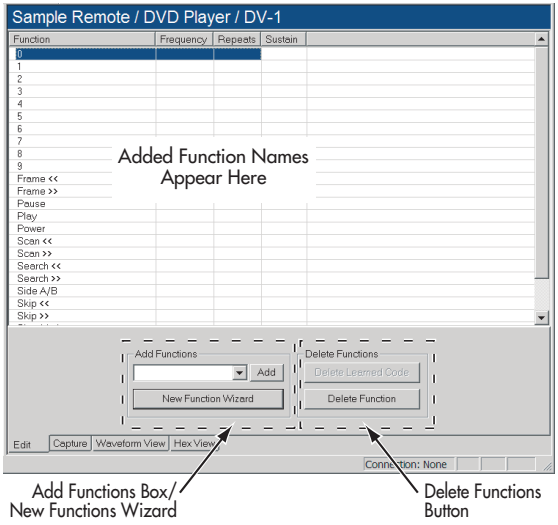



Figure 53:
Adding Function Names to the Function List

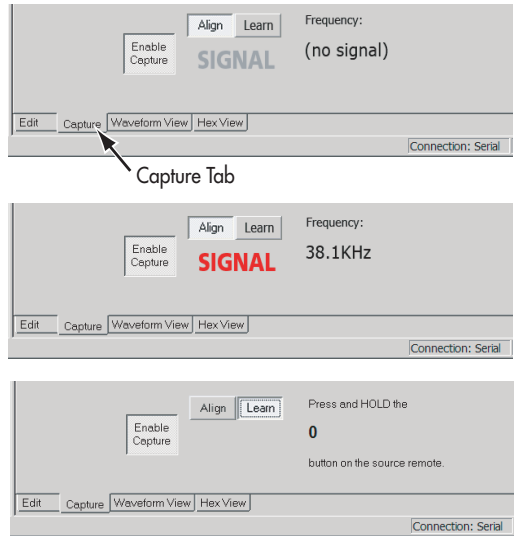



Figure 54:
Learning IR Codes

11. The function at the top of the IR Library's new FUNCTION List will automatically be selected. If you want to learn a different function you can use the mouse to select it.
12. Press and hold the button on the remote control that matches the function selected in Step 11 The IR Learner's SIGNAL LED will flash RED. Release the button when the the highlighted function on the Function List changes to the one below the one you're learning.
    - Once an IR code is learned for a function a red dot appears to the left of the function name on the list.
13. Repeat Steps 11 & 12 until all desired functions are captured.

### WAVEFORM VIEW TAB

The IR Library's WAVEFORM VIEW tab (*Figure 55*) displays the IR waveform of any IR code in an IR library.

- You cannot edit IR codes in this mode.

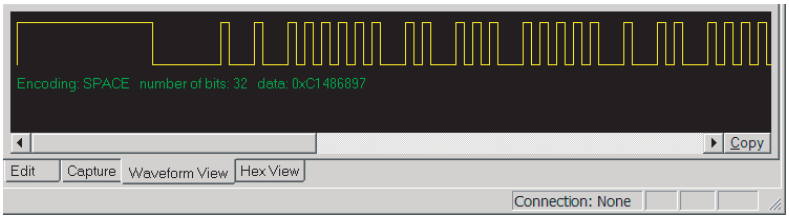



Figure 55: IR Library WAVEFORM VIEW Tab and Window

### HEX VIEW TAB

The IR Library's HEX VIEW tab (*Figure 56*) displays the Hex Code data for any IR code in the library.

If you have access to an IR code's Hex Data you can add the code to the USER IR Library even if you don't have it's original remote control to learn from:

1. Create a new remote and populate it with IR command names (see *Adding IR Codes to the User Library*, on page 39).
2. Click on the IR LIBRARY window's HEX VIEW tab.
3. Select the name or one of the commands for the new remote and copy its Hex Data into the HEX CODE window.
4. Click the APPLY button to save the Hex Code.
5. Repeat Steps 3 – 4 for all of the new IR codes you want to create.

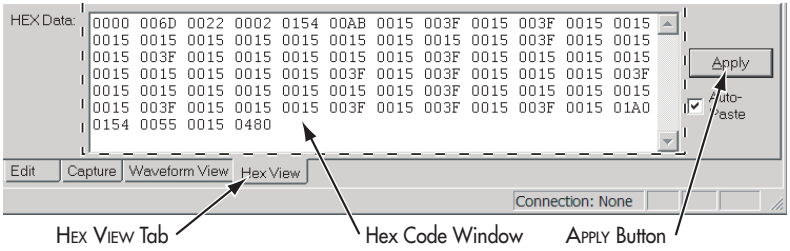



Figure 56: IR Library HEX VIEW Tab and HEX CODE Window

### Internal Commands

You can program DAB1 internal actions into macros using the Internal Commands command type (*Figure 57*, on page 42). The different available Internal Command functions are VOLUME, SOURCE, TUNER CONTROL, MUTE, POWER OFF, BASS, TREBLE, BALANCE, PAGING VOLUME and LOCK ZONE. Each function has its own set of parameters that you set before using the function in a macro:

**Function:** Selects which DAB1 function is to be configured.

**Unit:** Assigns the DAB1 Internal Command to a particular DAB1 unit in multi-unit systems.

**Zone:** Assigns the DAB1 Internal Command to a particular zone. You can assign commands to any zone being controlled by a particular DAB1, or to all zones.

**Value:** Assigns an action to the Internal Command. Values vary depending on which Function is selected.

Once you have configured the FUNCTION, UNIT, ZONE and VALUE parameters for the Internal Command, drag the icon into the MACRO Window to place it in a macro (see *Figure 57*).

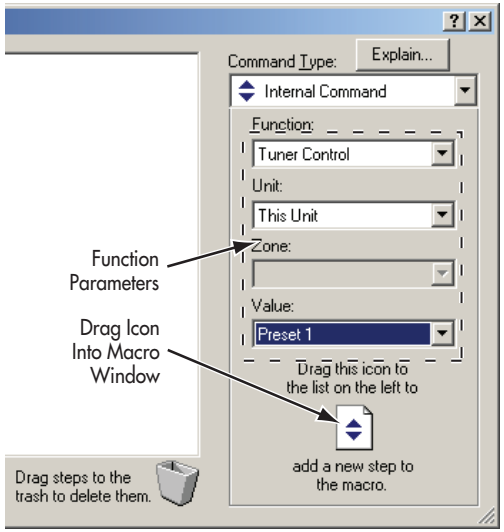



Figure 57:
INTERNAL COMMAND Window

### Status Test

If you want a macro command to execute only if a certain condition exists, add a Status Test command before the command in question. The following conditions can be used to determine if a macro executes: This Zone Is ON, This Zone Is Muted, Source 1 Is Selected, Source 2 Is Selected, Source 3 Is Selected, Source 4 Is Selected, Any Zone Is ON, Page Trigger Is Set.

To insert a Status Test command, select the desired condition and drag the icon into the MACRO Window (see *Figure 58*).

### Time Delay

Some audio/video components respond to IR commands more quickly than others. Adding a Time Delay after a macro command can give a component additional time to process the command and perform the required action before the next IR command in the macro sequence is sent. This can be especially useful when sending commands to multi-disc CD and DVD changers that can take several seconds to retrieve and load a selected disc. Adding a Time Delay command after a 'disc select' or 'disc play' command can help keep the system in sync.

To insert a Time Delay into a macro, select or type the desired delay amount and drag the icon into the MACRO Window (see *Figure 59*). You can set a delay of 0.1 seconds up to 240 seconds.

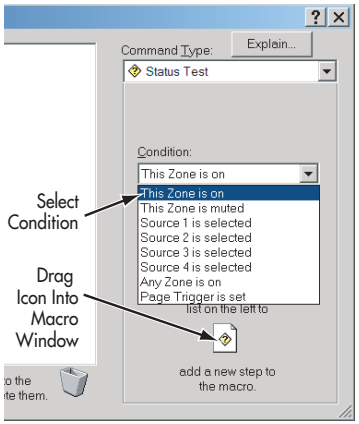



Figure 58:
STATUS TEST Macro Window

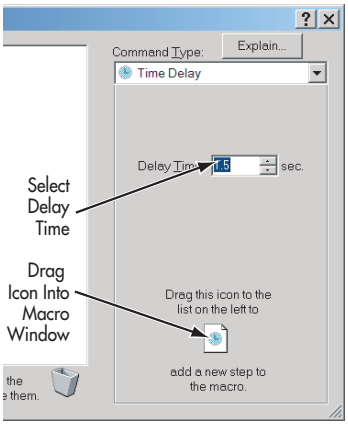

Command Type:
Explain...
Time Delay
sec.
Drag this icon to the list on the left to add a new step to the macro.
Select Delay Time
Drag Icon Into Macro Window

Figure 59:
TIME DELAY Macro Window

### RS-232 Command (Outbound Serial Control)

The DAB1 can issue macros containing outbound serial control strings to a device in the system via its RS-232 connector (see *Figure 14*, on page 17).

To create an RS-232 macro command set the following parameters and then drag the icon into the MACRO Window (see *Figure 60*):

**Baud Rate** — Select the correct baud rate from the drop-down box for the device being communicated with.

**Format** — Select the appropriate format from the drop-down box for the serial line of the device being communicated with:

| | | |
|---|---|---|
| **8N1** | = | eight data bits, no parity, one stop bit |
| **7E1** | = | seven data bits, even parity, one stop bit |
| **7O1** | = | seven data bits, odd parity, one stop bit |
| **7M1** | = | seven data bits, mark parity, one stop bit |
| **7S1** | = | seven data bits, space parity, one stop bit |

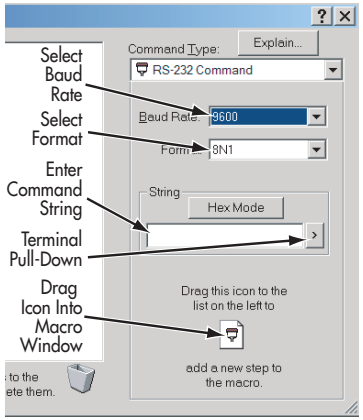



Figure 60:
RS-232 MACRO Window

**Command String** — RS-232 commands can be in either ASCII text or Hex code.

- If you're typing ASCII text make sure that the HEX MODE button is not selected, then type the command into the STRING window.
- If you're typing a Hex command or importing a Hex command from another device, press the HEX MODE button first and then type or copy the command into the window.

Once the proper command is in the STRING window drag the icon into the MACRO Window.

**Terminal Pull-Down** — Select the terminal (ending character) for the RS-232 command from the pull-down menu:

| | | |
|---|---|---|
| \r | = | Carriage return |
| \n | = | Line feed |
| \k | = | Hex byte |
| \e | = | Escape |
| \t | = | Tab |
| \\ | = | Backslash |

*Figure 61* shows the RS-232 MACRO EDITOR window with a sample RS-232 ASCII text macro command string.

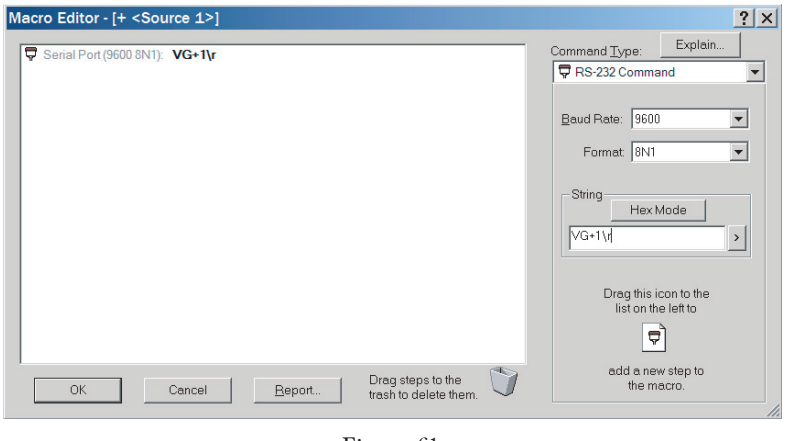



Figure 61:
RS-232 MACRO EDITOR Window with an RS-232 command string

You can edit an RS-232 command after it has been dragged into the MACRO Window by double-clicking or right-clicking the command string. The EDIT RS-232 COMMAND window will open. This allows changes to be made to the individual RS-232 commands without having to delete them and replace them with new commands.

*Figure 62* shows the EDIT RS-232 COMMAND window open, containing a replacement macro command string. Clicking the EDIT RS-232 COMMAND window's OK button will replace the RS-232 command string in the MACRO EDITOR window with this new command string.

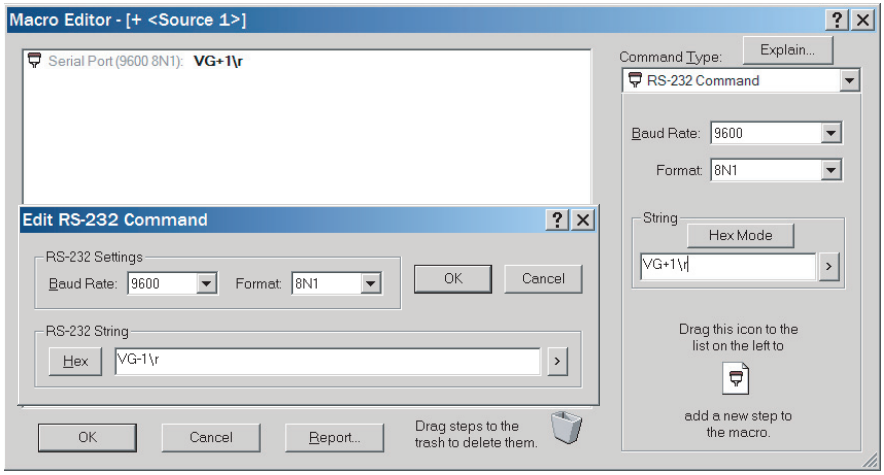



Figure 62:
RS-232 MACRO EDITOR Window with RS-232 COMMAND EDIT Window Open

### Stop Macro

The STOP MACRO command (*Figure 63*) causes the macro to stop executing at the point where it is inserted. Under normal circumstances the STOP MACRO command will not be needed, since macros automatically stop when they are finished. It is intended to be used along with the STATUS TEST command (see page 42) to end a macro if a certain condition is met.

### Repeat Steps

The REPEAT STEPS command (*Figure 61*) lets you repeat a particular macro command either until the button is released or for a specific number of times. This can be useful when controlling components that require certain commands be repeated to take effect, or when issuing commands for buttons like volume controls, that can have continuous action.

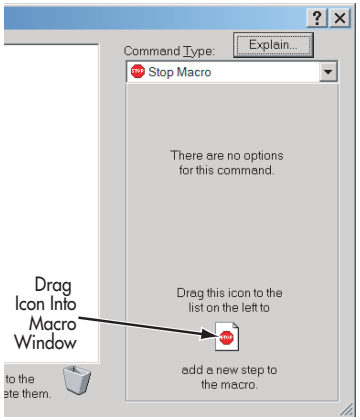

Command Type:
Explain...
Stop Macro
There are no options for this command.
Drag Icon Into Macro Window
Drag this icon to the list on the left to add a new step to the macro.

Figure 63:
STOP MACRO Window

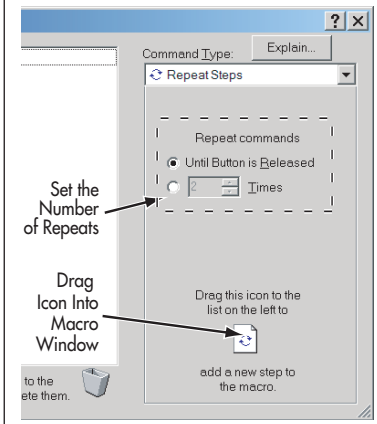

Command Type:
Explain...
Repeat Steps
Repeat commands
Until Button is Released
Times
Set the Number of Repeats
Drag Icon Into Macro Window
Drag this icon to the list on the left to add a new step to the macro.

Figure 64:
REPEAT STEPS Window

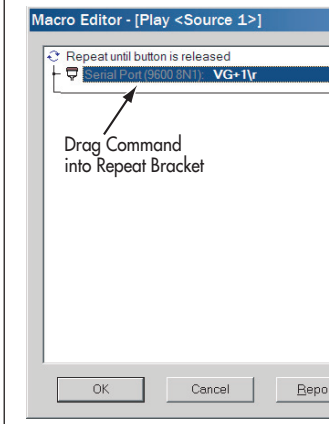



Figure 65:
Drag Command Into Bracket

After setting the number of repeats, drag the Repeat Steps icon into the MACRO Window. Then drag the command to be repeated into the bracket connected to the Repeat command (see *Figure 65*, on page 44).

### Toggle IR Code

The TOGGLE IR CODE command (see *Figure 66*) causes a button to alternate between two different IR commands each time the button is pressed. This is useful for creating a button that will toggle between two different commands such as combining separate PLAY and PAUSE commands into a single button.

After dragging the TOGGLE IR CODE icon into the MACRO Window, drag the two IR commands you want the button to toggle between into the bracket connected to the TOGGLE IR CODE command (see *Figure 67*).

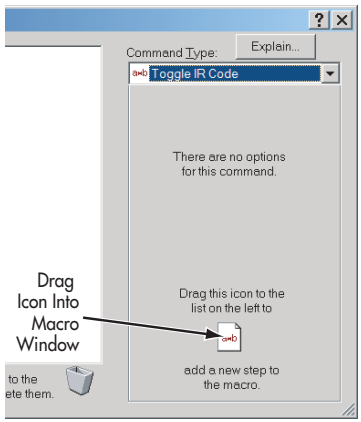

Command Type:
Explain...
Toggle IR Code
There are no options for this command.
Drag Icon Into Macro Window
Drag this icon to the list on the left to
add a new step to the macro.

Figure 66:
TOGGLE IR CODE Window

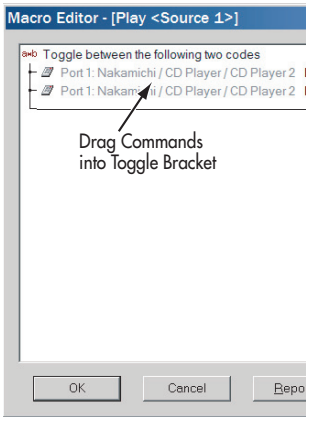

Macro Editor - [Play <Source 1>]
Toggle between the following two codes
Port 1: Nakamichi / CD Player / CD Player 2
Drag Commands into Toggle Bracket
OK
Cancel

Figure 67:
Drag Commands Into Bracket

## Modifying IR Commands In Macros

After a macro has been completed, IR commands can be modified from within the macro, allowing you to "fine-tune" the command's IR characteristics (and the macro's performance) without having to rebuild the macro from scratch.

Double-click on the macro command you want to modify. The EDIT IR COMMAND window (see *Figure 68*) will appear, allowing you to change the number of times the command is repeated on each button press, the command's IR frequency and the PROGRAMMED IR port that outputs the command.

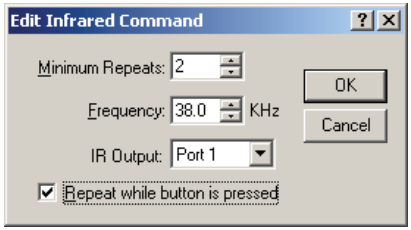



Figure 68:
EDIT IR COMMAND Window

# Controlling the DAB1 via RS-232 (Inbound Serial Control)

In addition to issuing RS-232 commands in macros to control other audio/video components, the DAB1's audio functions can also be controlled via RS-232 commands issued by an RS-232 capable control device (serial control).

*Note: The DAB1 is capable of one-directional serial operation (either* INBOUND *OR* OUTBOUND*) ONLY. Placing a single RS-232 command in any macro will automatically configure the DAB1 as an* OUTBOUND *serial control unit that will not respond to RS-232 commands from a serial control device.*

*To allow the DAB1 to be controlled by a serial-control device you must remove all RS-232 commands from all macros. See* Finding RS-232 Commands In Macros*, on page 53, for more information.*

## DAB1 Inbound Serial Protocol (fixed)

Baud Rate = **19200**; Data Bits = **8**; Parity = **None**; Stop Bits = **1**; Flow Control = **None**

## DAB1 Inbound Serial Commands

Each DAB1 inbound serial command begins with a colon character (:), followed by a single letter that indicates the desired command, then one or more parameters, and ends with a carriage return (<cr>).

| Command | Syntax | Parameters | State | Comments |
|---|---|---|---|---|
| Zone Power | :Zxy<cr> | x = Zone 1 – 6; y = State | 1 = On; 0 = Off | Discrete Zone Setting |
| All Zones Off | :Zy<cr> | y = State | 1 = On; 0 = Off | Global Setting Only |
| Source Select | :Sxy<cr> | x = Zone 1 – 6; y = Source 1 – 4 | Adjustable | Discrete Zone Setting |
| Tuner Preset | :Ryy<cr> | yy = Preset 1 – 12 | Memory Preset # | Global Setting Only |
| Tuner Preset Step | :R++<cr><br>:R--<cr> | ++ = Next Preset<br>-- = Previous Preset | Adjustable<br>Adjustable | Requires Firmware v2.0 or higher |
| Tuner Band | :Ny<cr> | y = State | 1 = FM; 0 = AM | Global Setting Only |
| Volume | :Vxyy<cr> | x = Zone 1 – 6; yy = Vol 0 – 60 | Adjustable | Discrete Zone Setting |
| Volume Step | :Vx++<cr><br>:Vx--<cr> | ++ = increase 1 step<br>-- = decrease 1 step | Adjustable<br>Adjustable | Discrete Zone Setting<br>Discrete Zone Setting |
| Page Volume | :Gxyy<cr> | x = Zone 1 – 6; yy = Vol 0 – 60 | Adjustable | Discrete Zone Setting |
| Page Volume Step | :Gx++<cr><br>:Gx--<cr> | ++ = increase 1 step<br>-- = decrease 1 step | Adjustable<br>Adjustable | Discrete Zone Setting<br>Discrete Zone Setting |
| Mute | :Mxy<cr> | x = Zone 1 – 6; y = State | 1 = Mute On; 0 = Mute Off | Discrete Zone Setting |
| Balance | :Bxyyy<cr> | x = Zone 1 – 6; yyy = Bal -10 – +10 | Adjustable; Center = 0 | Discrete Zone Setting |
| Balance Bump Step | :Bx++<cr><br>:Bx--<cr> | ++ = increase 1 step to right<br>-- = increase 1 step to left | Adjustable<br>Adjustable | Discrete Zone Setting<br>Discrete Zone Setting |
| Bass | :Lxyy<cr> | x = Zone 1 – 6 yy = Bass -8 – +8 | Adjustable; Flat = 0 | Discrete Zone Setting |
| Bass Bump Step | :Lx++<cr><br>:Lx--<cr> | ++ = increase 1 step<br>-- = decrease 1 step | Adjustable<br>Adjustable | Discrete Zone Setting<br>Discrete Zone Setting |
| Treble | :Hxyy<cr> | x = Zone 1 – 6; yy = Treble -8 – +8 | Adjustable; Flat = 0 | Discrete Zone Setting |
| Treble Bump Step | :Hx++<cr><br>:Hx--<cr> | ++ = increase 1 step<br>-- = decrease 1 step | Adjustable<br>Adjustable | Discrete Zone Setting<br>Discrete Zone Setting |
| Simulate Button Press | :Pzxyyy<cr> | **See Simulate Button Press Commands on page 48** | | |

After each command is received the DAB1 will respond with '+OK' if the command is recognized and executed, or '+ERR' if the command is invalid. Note that even valid commands will return '+ERR' if the DAB1 is not able to process them (i.e. if it is turned OFF).

## Inbound Serial Control of DAB1s in Multi-Unit Systems

In systems with multiple DAB1 units, serial commands in the above format will only control the DAB1 unit to which the serial control device is directly connected. However, all of the serial commands in the above table can also be used to control any DAB1 in a system with more than one unit, where the serial control device is connected to one 'Master' DAB1 and all of the 'Slave' DAB1s are connected via their SYNC connections (see page 16).

Multi-unit commands have the same format as the single-unit commands, with the addition of the DAB1's Unit ID number (see page 30) inserted between the opening colon (:) and the command letter.

For example, the VOLUME UP command for Zone 1 in a single-unit system would be:

**:V1++<cr>**

The VOLUME UP command for Zone 1 of Unit 3 in a multi-unit system would be:

**:3V1++<cr>**

## DAB1 Status Queries

DAB1 status queries follow the same format as the serial commands, except that the SETTING is replaced with a question mark character (?). The response from the DAB1 will consist of a plus sign (+) followed by the parameter being checked, the zone (if applicable) and the current setting.

| Command | Syntax | Parameters | Response | Response Parameters |
|---|---|---|---|---|
| Zone Power | :Zx?<cr> | x = Zone 1 – 6 | +Zxy | y = 1 if On; y = 0 if Off |
| Any Zones On | :Z?<cr> | None | +Zy | y = 1 if any zone On; y = 0 if all zones Off |
| Source | :Sx?<cr> | x = Zone 1 – 6 | +Sxy | y = Current Source (1 – 4) |
| Tuner Preset | :R?<cr> | None | +Ry | y = Current Preset (1 – 12), ) 0 if not on a preset |
| Tuner Band | :N?<cr> | None | +Ny | y = 1 for FM; 0 for AM |
| Volume | :Vx?<cr> | x = Zone 1 – 6 | +Vxy | y = Current Volume (0 – 60) |
| Page Volume | :Gx?<cr> | x = Zone 1 – 6 | +Gxy | y = Current Page Volume (0 – 60) |
| Mute | :Mx?<cr> | x = Zone 1 – 6 | +Mxy | y = 1 if Mute On; Y = 0 if Mute Off |
| Balance | :Bx?<cr> | x = Zone 1 – 6 | +Bxy | y = Current Balance (-10 – +10) |
| Bass | :Lx?<cr> | x = Zone 1 – 6 | +Lxy | y = Current Bass (-8 – +8) |
| Treble | :Hx?<cr> | x = Zone 1 – 6 | +Hxy | y = Current Treble (-8 – +8) |

The DAB1 will respond with '+ERR' if the status query is invalid.

## Simulate Button Press Serial Commands

*Note: Requires firmware version v2.0 or higher*

The Simulate Button Press serial command *:P* (see table on page 46) can be used to allow a serial control device to trigger the macro that is programmed into any keypad button in any DAB1 zone.

The command format is **:Pzxyyy<cr>**

P = Simulate button press

z = The Zone number of the command (1 – 6)

x = The command layer: 1 = Press, 2 = Press-and-Hold, 3 = Double-Press, 4 = Extra Commands (see *Expanded Control Features*, on page 47)

yyy = The keypad button to be triggered, from the table to the right.

For example, to trigger the Press layer Source 1 keypad button macro in Zone 2 the serial command would be:

**:P2117<cr>**

P = Simulate Button Press command

2 = Zone 2

1 = Press layer

17 = Source 1 button

### Simulate Button Press Commands in Multi-Unit Systems

As with other serial commands, a Simulate Button Press command can be used to control any DAB1 in a system with multiple units by adding the DAB1's Unit ID number (see page 30) to the command after the colon.

For example, to trigger the Press layer Source 1 keypad button macro in Zone 2 of Unit #3 in a multi-unit system, the serial command would be:

**:3P2117<cr>**

3 = Unit ID #3

P = Simulate Button Press command

2 = Zone 2

1 = Press layer

17 = Source 1 button

### Simulate Button Press Serial Commands

| Button | yyy Equivalent |
|---|---|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |
| 10 (DAB KP); 0 (C4630 SE KP) | 10 |
| 11 (DAB KP); – (C4630 SE KP) | 11 |
| 12 (DAB KP); + (C4630 SE KP) | 12 |
| Volume Up | 13 |
| Mute | 14 |
| Volume Down | 15 |
| Off | 16 |
| Source 1 | 17 |
| Source 2 | 18 |
| Source 3 | 19 |
| Source 4 | 20 |
| Pause | 21 |
| Play | 22 |
| Backward | 23 |
| Forward | 24 |
| Extra Commands* | 001 – 200 |

* See page 50 for details about Extra Commands.

# Using the DAB1 with Sonance Navigator® K2 and K1 Programmable Keypads

The DAB1 is also compatible with Sonance Navigator K1 and K2 keypads. These programmable keypads provide additional capability for zones that require more sophisticated control than the DAB1 and C4630 SE keypads offer.

*NOTE: For detailed K1 and K2 programming instructions please refer to the documentation that is available for those keypads.*

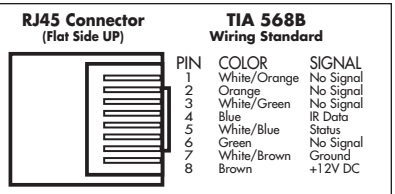



Figure 69:
Keypad Connection RJ45 Pinout

## Wiring K2 and K1 Keypad Connections

Sonance K1 and K2 keypads connect to the DAB1 the same way as the DAB1 Keypad and C4630 SE Main Keypad:

1. In direct runs from keypad to controller, pull a length of CAT5 wire from every keypad mounting location to the DAB1 location. The maximum length of any single CAT5 cable connecting a K1 or K2 to the DAB1 is 250'.
2. Terminate each CAT5 cable with RJ45 connectors on the DAB1 end. Follow the TIA 568B wiring standard (see *Figure 69*).
3. Connect the CAT5/RJ45 cable to the zone's Keypad Controller Port on the DAB1 and to the multi-pin connector on the back of the K1/K2 keypad (don't use the keypad's RJ45 connector). See *Figure 70*.

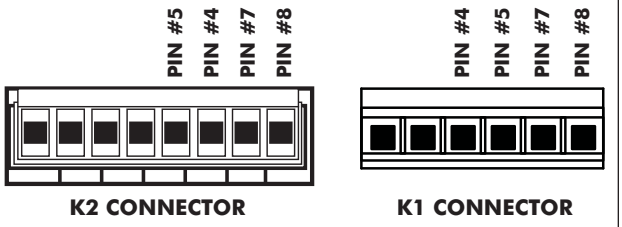



Figure 70: K1/K2 Keypad Wiring

## Powering K2 Keypads

The K2 keypad requires more current than the DAB1 Keypad or C4630 SE Main/Numeric Keypad combination does. You need to take special care when using these keypads to ensure there is adequate current to properly run all connected keypads.

The DAB1 supplies 1A of total keypad current through its keypad connections. When the rear-panel ZONE 4 – 6 KEYPAD POWER switch (see *Figure 71*) is in the INT (internal) position this current is evenly divided between all six Zone Keypad Connections. When the switch is in the EXT (external) position, the DAB1 supplies all 1A of current to Zones 1 – 3, while Zones 4 – 6 must be powered by an external PS2 power supply (available separately) connected to the ZONE 4 – 6 KEYPAD EXTERNAL POWER Connection (see *Figure 71*).

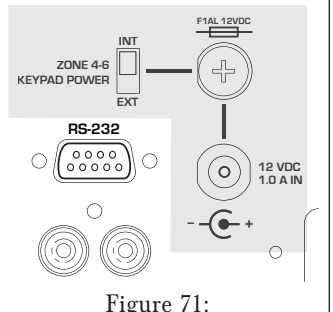



Figure 71:
Keypad External Power Connection

The table below shows how many of each type of keypad can be used:

| ZONE 4 – 6 KEYPAD INTERNAL POWER Switch Position | DAB1 Keypads Max LED Brightness, (Each Draws 52mA) | C4630 SE Main/Numeric Keypads Max LED Brightness, (Each Set Draws 165mA) | K1 Keypads Backlight ON, (Each Draws 70mA) | K2 Keypads Med LED Brightness, (Each Draws 150mA) | K2 Keypads Max LED Brightness, (Each Draws 265mA) |
|---|---|---|---|---|---|
| INT (Internal) Supplies 1A Total | Up to 12 | Up to 6 Sets | Up to 12 | Up to 6 | Up to 3 |
| EXT (External, w/PS2 Power Supply) Supplies 2A Total | Up to 24 | Up to 12 Sets | Up to 24 | Up to 12 | Up to 7 |

### Using DAB1 Internal Macros with K1/K2 Programmable Keypads

Unlike the DAB1 Keypad and C4630 Main and Numeric Keypads, the K1 and K2 keypads can store and execute their own macros in addition to triggering macros stored in the DAB1. Since the DAB1 will only output one set of IR commands at a time, you must use time delays to ensure that only one set of macro commands executes at a time. For example, if a K2's keypad macro includes a command that triggers a DAB1 internal macro, once the K2 sends the command to execute the DAB1 macro, the DAB1 will issue its own macro from start to finish and will not pass any of the K2's IR macro commands until it is finished.

To assure that there is no conflict between keypad and DAB1 macros Sonance recommends building all macros in the DAB1 and using the keypad only as a trigger device. If you must combine DAB1 macros with K1/K2 keypad macros, you can minimize the chances of conflicts by:

- Grouping all DAB1 internal macro commands together and grouping all K1/K2 keypad macro commands together.
- Having the keypad trigger the DAB1's internal macro last.
- Delaying the start of the K1/K2 macro long enough to ensure that the DAB1 internal macro completes executing before the keypad macro begins.

## Expanded Control Features

### DAB1 Extra Command Macros

In addition to the macros that can be triggered by the DAB1 Main and Numeric keypad buttons, the DAB1 can also execute up to 200 additional macros per zone. These macros are stored on the Extra Commands action layer of each zone's Zone Programming Screen (see *Figure 72*).

The Extra Command macros cannot be triggered by the DAB1 Keypad or C4630 SE Main and Numeric keypads — they are designed to be triggered by the K1 and K2 programmable keypads, or by a serial control device connected via RS-232.

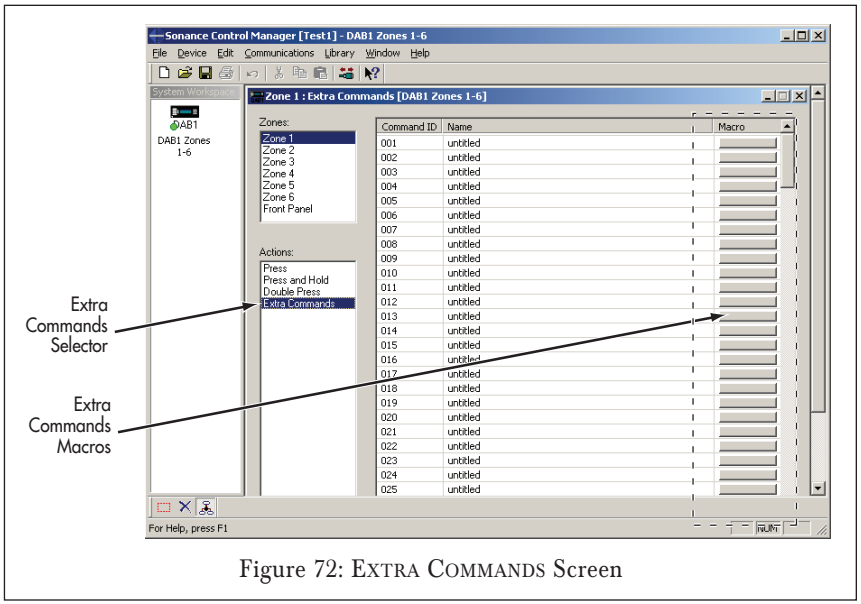



Figure 72: Extra Commands Screen

When you click on one of the Extra Command macros, the Macro Editor screen will appear (see *Figure 46*, on page 36). With the exception of continual commands such as for controlling volume (see *Appendix 2: Programming Extra Command Volume Control Macros*, on page 58), programming these macros is exactly the same as programming macros for DAB1 Keypads and C4630 SE Main and Numeric Keypads. See *Programming DAB1 Keypad Macros*, on page 34, for information about programming macros.

## Triggering DAB1 Extra Command Macros From the K1 and K2

The K1 and K2 triggers for the DAB1 Extra Command macros are included in the SonanceIRLibrary_2006 file, which can be downloaded from the Sonance website (www.sonance.com). Once you're at the website select the Electronics category. From there, select the DAB1 and go to the Downloads section. Follow the instructions to download the IR library file.

The DAB1 Extra Command triggers can be programmed into K1 and K2 buttons just like any other remote control command:

1. After opening the Navigator Program Manager and choosing a keypad, left-click the Select New Remote button on the Library Manager.
2. Use the Open Library button to select the SonanceIRLibrary_2006.cml file, then select the C4630 Extra Commands library (*Figure 73*).
3. Select the desired Extra Command trigger and drag it to the keypad button you want to trigger it (*Figure 74*).
4. Use the Sonance Control Manager software to program the selected DAB1 Extra Command macro into the DAB1, as explained in *DAB1 Extra Command Macros*, on page 50.

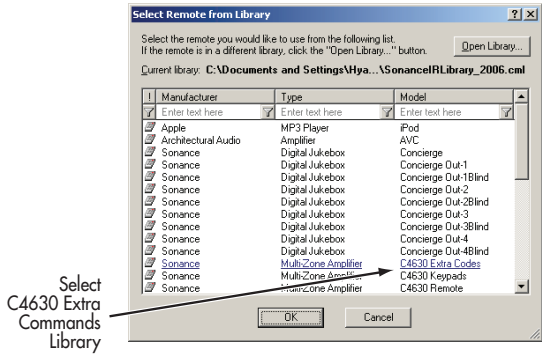



Figure 73: Select C4630 Extra Commands Library

*NOTE: Although you can also program DAB1 Extra Command triggers as elements of K1 and K2 keypad macros, it is not recommended. When the DAB1 executes the Extra Command macro it will prevent the keypad macro from completing until the Extra Command macro has completed. See* Using DAB1 Internal Macros with K1/K2 Keypads, *on page 50, for details.*

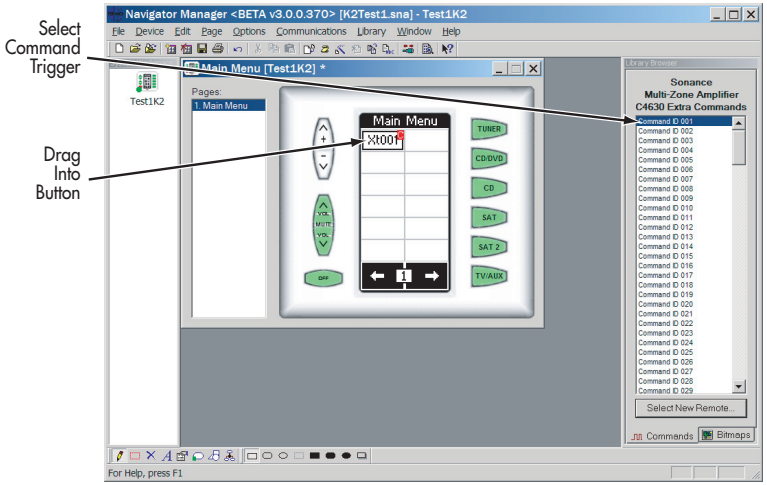



Figure 74:
Programming a K2 Button to Trigger a DAB1 Extra Command

# Getting System Configuration Information

The Sonance Control Manager can generate a System Configuration Report containing all of the system information and all of the programming information for each device in the system. This report can be a great help when confirming that a system has been properly programmed before turning it over to a client, or when troubleshooting a system that may not be working as expected.

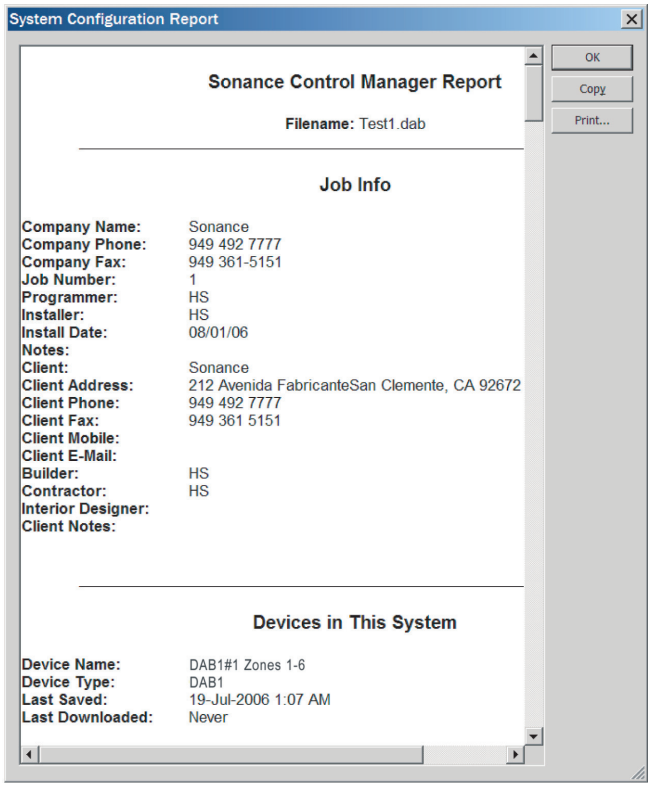



Figure 75:
System Configuration Report Window

## Generating a System Configuration Report

1. Confirm that the Sonance Control Manager program has been uploaded with the latest configuration information from all system devices by uploading the configuration information from each DAB1 to the computer:
   a) Connect the computer to the DAB1's USB port.
   b) Launch the Sonance Control Manager software.
   c) Open the Communications menu and select Receive From Device. The programming from the connected DAB1 will be uploaded to the Sonance Control Manager.
2. Once the Sonance Control Manager has been updated, open the File menu and select System Configuration Report. The System Configuration Report window (*Figure 75*) will open.

The System Configuration Report will contain the installer and client Job Information for the system, a listing of all devices in the system and the configuration of each device in the system. The device configuration information includes:

- The device's General Settings
- Zone Settings for each zone
- Source Settings for each source
- All of the macros for the Press, Double-Press and Press-And-Hold levels for each zone.

The macro descriptions include each command contained in the macro, in sequential order. This enables the programmer to review each macro step-by-step when troubleshooting the system.

The System Configuration Report window's Copy and Print buttons let you generate a hard-copy printout of the entire report. The file can be opened and read in *Notepad* or *WordPad*, and can be e-mailed for review at remote locations.

## Finding RS-232 Commands in Macros

As stated on page 45, the DAB1 is capable of serial operation in one direction *only*, either inbound *OR* outbound. Placing a single RS-232 command in one macro will automatically configure the DAB1 for *outbound* serial operation — the unit will *not* respond to inbound commands from a connected serial control device.

To allow the DAB1 to become an *inbound* serial device that will respond to commands from a connected serial control device you must remove all RS-232 commands from all DAB1 macros. The System Configuration Report allows you to see every command in every DAB1 macro, making it easier to delete all RS-232 commands.

As you scroll-through the macros in the System Configuration Report, RS-232 macro commands will appear as shown in *Figure 76*.

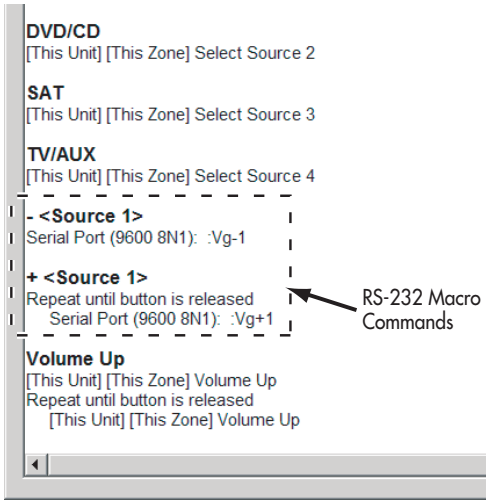



Figure 76:
System Configuration Report
Showing RS-232 Macro Commands

# Appendix 1: "Party Mode"

"Party Mode" allows all zones in the system to be turned-on when any zone is turned ON with a PRESS-AND-HOLD of a Source button. The selected source component will then play in all zones.

Party Mode works in a system with a single DAB1, or in a large system with multiple DAB1s (or a combination of DAB1s and C4630 SEs) that are connected via the SYNC connections (see *Sync Connections*, on page 16). When Party Mode is activated in a multi-unit system, Source and Paging audio signals and source component IR control codes will be shared between all the zones in all connected units. All zone and system functions with the exception of PROGRAMMED IR will function the same as on a system with a single DAB1.

To be included in Party Mode operation, a zone must first be enabled for it in the Sonance Control Manager's ZONE SETUP screen (see *Setting Up a Zone*, on page 32). This allows certain zones (such as a nursery or office) to be excluded from Party Mode operation.

## Programming the DAB1 to Turn All Zones OFF in Systems Incorporating Multiple DAB1s

In a system with multiple DAB1s (or a combination of DAB1s and C4630 SEs), selecting any Source component in any zone with a PRESS-AND-HOLD will activate Party Mode for all zones in the system, no matter which DAB1 they are associated with.

In Party Mode, using a PRESS-AND-HOLD of a ZONE OFF button to turn any enabled zone OFF will only turn-OFF the zones associated with that individual DAB1. In a system with multiple DAB1s, the macro to turn all zones OFF with a PRESS-AND-HOLD of the ZONE OFF button must be programmed into one zone's keypad controller. Once programmed, this command will work globally for all zones on all DAB1s that are linked via their SYNC connections.

To program all Party Mode zones to turn OFF:

1. Launch the Sonance Control Manager software. If you have already created a Project File for the system, open it. If not, create a new Project File.
2. Select one of the DAB1s appearing in the system and under ACTIONS, select PRESS AND HOLD.
3. Click on the OFF (ZONE OFF) button. The MACRO EDITOR will open.

*Note: The factory-programmed PRESS-AND-HOLD Party Mode macro will appear in the Macro Window.*

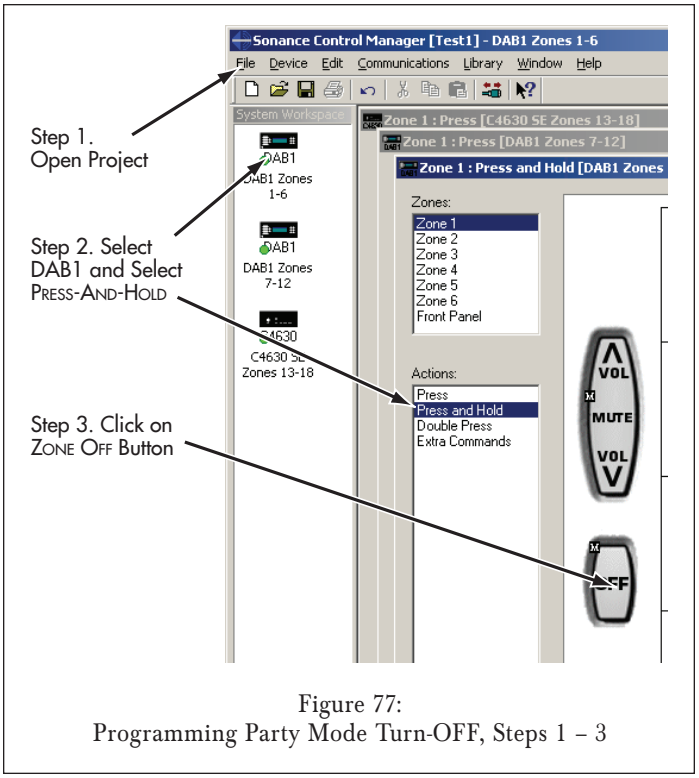



Figure 77:
Programming Party Mode Turn-OFF, Steps 1 – 3

4. Drag the factory-programmed Party Mode macro into the trash.
5. Create a new macro by selecting the following Macro Function parameters in their respective drop-down boxes:
   - COMMAND TYPE = **INTERNAL COMMAND**
   - FUNCTION = **POWER OFF**
   - UNIT = **THIS UNIT**
   - ZONE = **ALL ZONES**
6. Drag the Macro icon into the Macro Window and select the OK button.
7. Right-click on the ZONE OFF button and select "Make This Key Global". (This assigns the command to all zones in the system.)

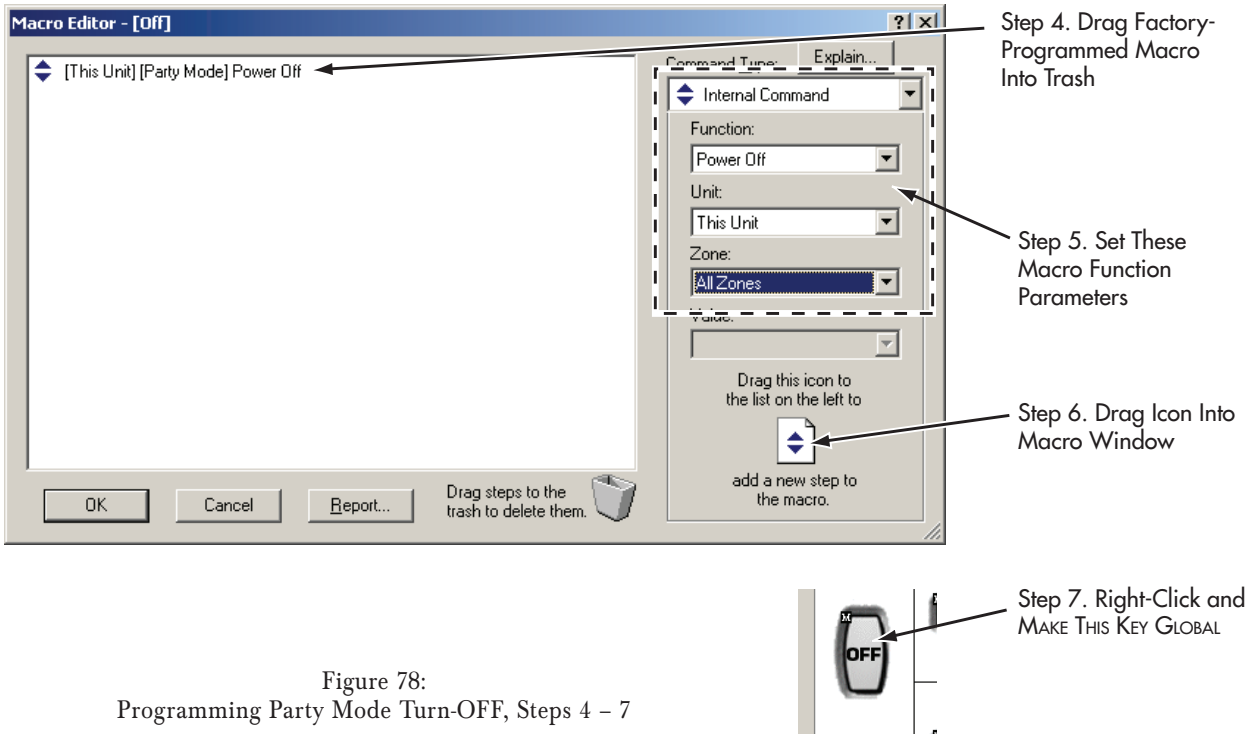



Figure 78:
Programming Party Mode Turn-OFF, Steps 4 – 7

A PRESS-AND-HOLD of the ZONE OFF button in any zone will now turn OFF all Party Mode-enabled zones in the entire system, no matter which DAB1 they are associated with.

## Programming a K2 Keypad to Activate Party Mode in a DAB1 System

*Note: These instructions are for using the Navigator Program Manager software (included with the K2 Keypad) to program the K2 keypad for Party Mode control of a DAB1 system.*

1. Launch the Navigator Control Manager software. If you have already created a System File for the system, open it. If not, create a new System file that includes a K2 keypad (see *Figure 79*).
2. Select the Macro Edit tool at the bottom of the screen.
3. Click on the top Source button to program it. This will open the Macro Editor window (see F*igure 80*).
4. Click on the Select New Remote button. Find the IR codes for the Sonance DAB1 and click "OK". The Macro Editor window will return, with the DAB1's IR codes displayed in the IR Command window.
5. In the Command Type drop-down box, select Button Test. Click the Held-Down option and set the time to 1.5 seconds (see *Figure 81*, opposite).

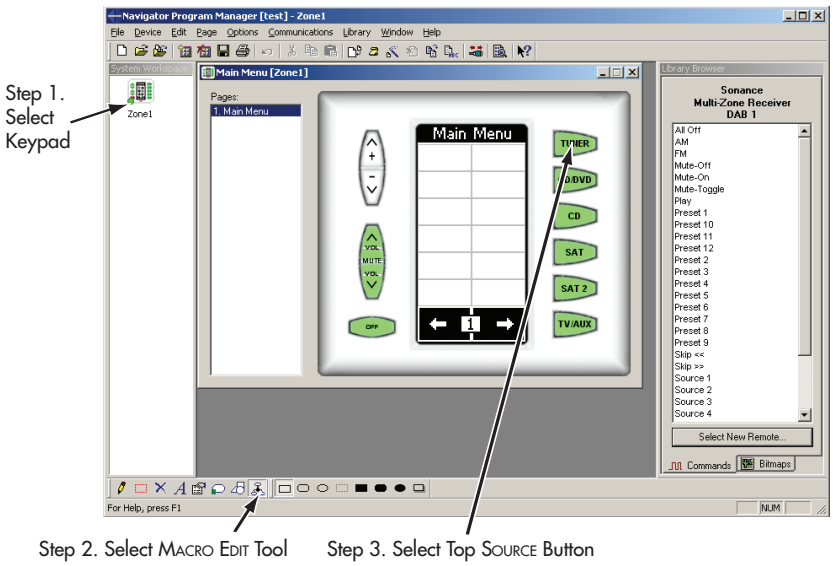

Step 1. Select Keypad
Navigator Program Manager [test] - Zone1
Main Menu [Zone1]
Main Menu
Sonance Multi-Zone Receiver DAB 1
Select New Remote...
Step 2. Select Macro Edit Tool
Step 3. Select Top Source Button

Figure 79:
Programming a K2 Keypad for Party Mode, Steps 1 – 3

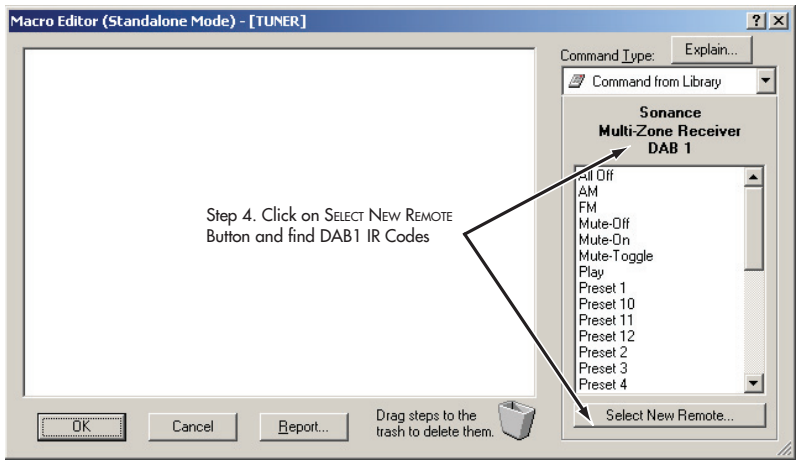

Macro Editor (Standalone Mode) - [TUNER]
Command Type:
Explain...
Command from Library
Sonance Multi-Zone Receiver DAB 1
Step 4. Click on Select New Remote Button and find DAB1 IR Codes
OK
Cancel
Report...
Drag steps to the trash to delete them.
Select New Remote...

Figure 80: Programming a K2 Keypad for Party Mode, Step 4

6. Drag the macro icon into the Macro Window. This will establish a button PRESS-AND-HOLD condition (see *Figure 81* and *Figure 82*).
7. In the COMMAND TYPE drop-down box, select COMMAND FROM LIBRARY. The DAB1 IR commands will reappear in the COMMAND window (see *Figure 80*).
8. Drag the SOURCE 1 command into the Macro Window, above the *Else* line, as shown in *Figure 82*.
9. Click on the SOURCE 1 command you just dragged into the window. the EDIT INFRARED COMMAND window will appear (see *Figure 83*). Change the MINIMUM REPEATS to 6. Click OK.
10. Drag a second SOURCE 1 command into the Macro Window, this time below the *Else* line, as shown in *Figure 82*. Click OK.

Repeat Steps 3 – 10 for each K2 Source button being used in the system.

Now, a Source button PRESS will activate the source in the zone the keypad controls. A Source button PRESS-AND-HOLD will activate the source in all zones in the system (Party Mode).

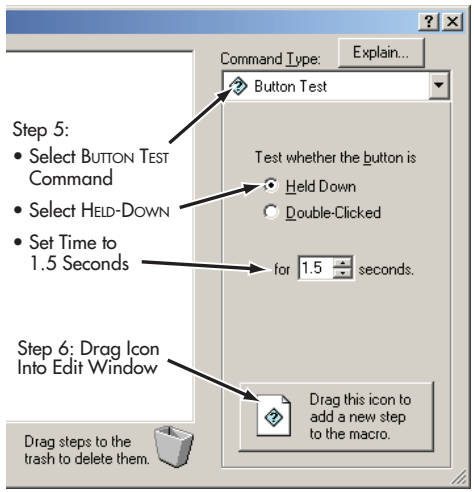

Command Type:
Explain...
Button Test
Step 5:
• Select BUTTON TEST Command
• Select HELD-DOWN
• Set Time to 1.5 Seconds
Test whether the button is
Held Down
Double-Clicked
for 1.5 seconds.
Step 6: Drag Icon Into Edit Window
Drag this icon to add a new step to the macro.
Drag steps to the trash to delete them.

Figure 81: Programming a K2 Keypad for PARTY MODE, Steps 5 – 6

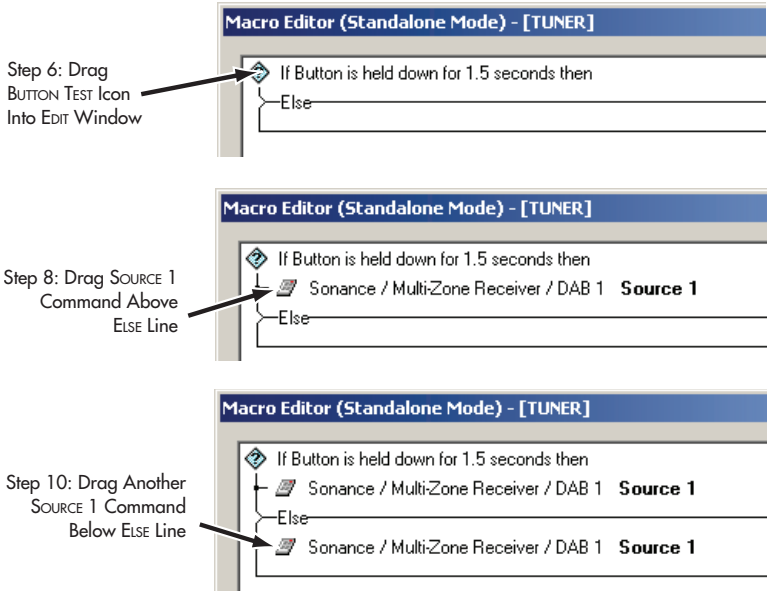

Macro Editor (Standalone Mode) - [TUNER]
Step 6: Drag BUTTON TEST Icon Into EDIT Window
If Button is held down for 1.5 seconds then
Else
Macro Editor (Standalone Mode) - [TUNER]
Step 8: Drag SOURCE 1 Command Above ELSE Line
If Button is held down for 1.5 seconds then
Sonance / Multi-Zone Receiver / DAB 1 Source 1
Else
Macro Editor (Standalone Mode) - [TUNER]
Step 10: Drag Another SOURCE 1 Command Below ELSE Line
If Button is held down for 1.5 seconds then
Sonance / Multi-Zone Receiver / DAB 1 Source 1
Else
Sonance / Multi-Zone Receiver / DAB 1 Source 1

Figure 82: Programming a K2 Keypad for PARTY MODE, Steps 6, 8 and 10

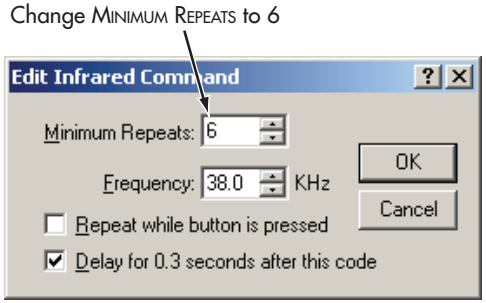



Figure 83: Programming a K2 Keypad for PARTY MODE, Step 9

# Appendix 2: Programming Extra Command Volume Control Macros

In most installations (where a keypad controls a single zone), it is not necessary to program DAB1 Extra Command volume control macros — you would simply use the keypad's own volume control macro to control the zone. However, in an installation where a single K2 keypad is being used to control more than one zone, the DAB1's Extra Commands must be used.

As mentioned on page 50, programming DAB1 Extra Command macros is identical to programming other DAB1 macros. However, to allow the K2 keypad's volume control buttons to work as expected (that is, to continually change the volume while being held-down), the Volume UP and Volume DOWN macros must be built as described below.

1. Open the Sonance Control Manager, select a DAB1 unit and select Extra Commands (see *Figure 72*, on page 50).
2. Change the the first Extra Commands (Command ID 001) Macro's name from untitled to Zone 1 Volume UP.
3. Click on the macro. The Macro Editor window will open (see *Figure 84*).
4. In the Command Type drop-down box, select Repeat Steps. Make sure that Repeat Commands Until Button Is Released is selected, and drag the macro icon into the Edit window.
5. Create a new macro by selecting the following Macro Function parameters in their respective drop-down boxes:

   | | | |
   |---|---|---|
   | Command Type | = | **Internal Command** |
   | Function | = | **Volume UP** |
   | Unit | = | **1** |
   | Zone | = | **Zone 1** |
   | Value | = | **Step Up** |

6. Drag the macro icon into the Edit window, inside of the Repeat Steps bracket (see *Figure 84*). Click OK.
7. Repeat Steps 2 – 6, using the second Extra Commands (Command ID002) macro for Zone 1 Volume DOWN. (Change the Value in Step 5 to Step Down.)
8. Repeat Steps 2 – 7 for each zone you want the K2 keypad to control.

Program the K2's volume control buttons to trigger these Extra Command macros (see page 51).

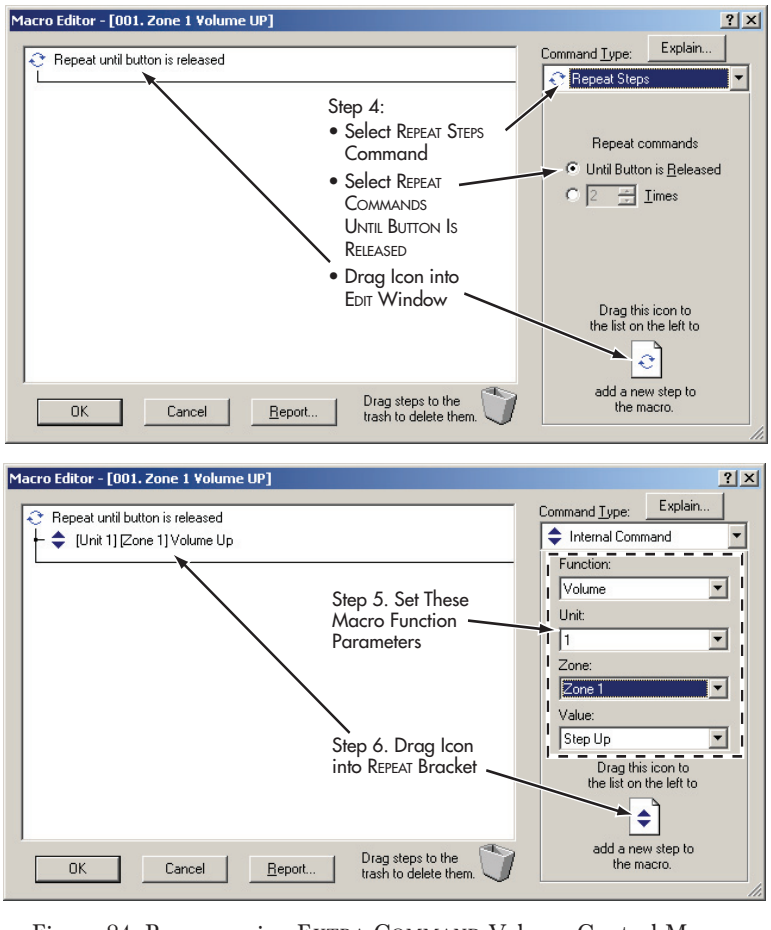



Figure 84: Programming Extra Command Volume Control Macros

# Specifications:

## Audio Performance

| | |
|---|---|
| Output Power: | 30 Watts RMS/ch x 12 @ 8 ohms |
| Frequency Response: | 20Hz – 20 kHz ±1dB |
| Total Harmonic Distortion: | 0.05% (1kHz); 0.2% (20Hz –20kHz) |
| Signal-to-Noise Ratio: | -95dB |
| Source Input Sensitivity: | 200mV |
| Source Input Impedance: | 30k ohms |
| Source Input Voltage (max): | 2.0VAC RMS |
| Source Output Impedance: | 100 ohms (buffered) |
| Zone Line Output Impedance: | 100 ohms |
| Zone Line Output Level (Fixed): | 1:1 (Unity Gain) |
| Zone Line Output Level (Variable): | 0dB – +19dB (All volume settings at maximum) |

## FM Tuner Performance

| | |
|---|---|
| Frequency Range (U.S.): | 88.1MHz – 107.9MHz (200kHz steps) |
| Frequency Range (Europe): | 87.50MHz – 108.00MHz (50kHz steps) |
| Usable Sensitivity: | -35dBf |
| THD (@1kHz): | 0.15% (mono):, 0.2% (stereo) |
| Adjacent Channel Selectivity: | 30dB |
| Signal-to-Noise: | -72dB |
| Frequency Response: | 30Hz – 15kHz ±0.5dB |
| Stereo Separation: | 35dB @1kHz |

## AM Tuner Performance

| | |
|---|---|
| Frequency Range (U.S.): | 520kHz – 1710kHz (10kHz steps) |
| Frequency Range (Europe): | 522kHz – 1611kHz (9kHz steps) |
| THD (@1kHz): | 1.2% |
| Sensitivity: | 25dB |
| Selectivity: | 24dB |
| Signal-to-Noise: | -45dB |
| Frequency Response | 100Hz – 3kHz ±4dB |

# Specifications (continued):

## Audio Connections

| | |
|---|---|
| Source Inputs: | 4 x Stereo RCA connectors |
| Source Loop Outputs: | 4 x Stereo RCA connectors |
| Zone Line Outputs: | 6 x Stereo RCA connectors |
| Speaker Outputs: | 6 x Removable 4-pin screw connectors |
| Paging Connections: | 1 x Mono RCA (input); 1 x Mono RCA (output) |

## Control Connections

| | |
|---|---|
| Keypad Connections: | 6 x RJ45 connectors(TIA568B Wiring) |
| IR Outputs (Mono 3.5mm connectors): | 6 x Zone-specific; 4 x Common; 4 x Programmable1 x IR Link |
| Serial Control: | RS-232 connector |
| Serial Protocol (Inbound): | 19.2K Baud, 8NI (fixed) |
| Serial Protocol (Outbound): | Adjustable |
| Sync Connections: | 2 x Mono 3.5mm connectors |
| 12V Control Input/Output: | Screw-to-Connect (14AWG compatible) |
| Computer Connection (For Programming): | 1 x USB |

## Infrared

| | |
|---|---|
| IR Receiver Bandwidth: | 30kHz – 100kHz (Front-panel & keypad) |
| IR Receiver Range: | <30 feet |

## General

| | |
|---|---|
| Power Requirements: | 120VAC, 60Hz |
| Power Consumption: | 960 Watts (Max power, 12 channels driven) |
| AC Convenience Outlets: | 2 switched outlets |
| Zones 4 – 6 Keypad External Power: | 12VDC, 1A (defeatable) |
| Dimensions (W x H x D): | 16¾" x 6" x 15" (425mm x 152mm x 381mm) |
| Rack Space Requirements: | 3U |
| Weight: | 33 lbs (15kg) |

# TROUBLESHOOTING

**KEYPADS**

| Problem | Solution |
|---|---|
| Keypad does not backlight | a) Make sure backlight jumper is in place.<br>b) (C4630 SE Numeric Keypad) Make sure 14-pin ribbon connector is properly connected between Main and Numeric Keypad. See page 20. |
| Keypad backlight is too bright | Confirm proper Keypad Backlight Jumper position. See pages 20 and 22. |
| IR receiver Keypad does not work | a) Eliminate interference from light sources, (sunlight, halogen, fluorescent, etc.) that may be interfering with or locking-up the IR receiver.<br>b) Move Keypad away from source of interference.<br>c) (C4630 SE Main Keypad) Remove the IR receiver from the keypad and mount it in a different location. |

**POWER**

| Problem | Solution |
|---|---|
| System will not power up | a) Confirm that the AC ON LED is illuminated. If it isn't, make sure that the power cord is firmly plugged-into the DAB1's POWER CONNECTOR and into a live AC outlet.<br>b) Keypad button is stuck under bezel, causing continuous IR code transmission. |
| Keypads 4 – 6 will not power up | Switch the ZONE 4 – 6 KEYPAD POWER switch on the DAB1 rear panel to the INTERNAL position. |
| Source components plugged into switched outlets do not turn ON when the system is turned ON | POWER switches on components must be in ON or STANDBY position. |
| DAB1 locks-up (zones will not turn ON or OFF) or acts erratically | Eliminate AC power line noise by connecting DAB1 AC cord to a power conditioner. |

**AUDIO**

| Problem | Solution |
|---|---|
| No audio from source | a) Is the source ON?<br>b) Is the source's line audio out connected to appropriate Source *Input* (not Source *Output*) on the DAB1? See page 12.<br>c) Is source playing? |

**AUDIO (continued)**

| Problem | Solution |
|---|---|
| No audio in zone | a) Are speakers connected?<br>b) Is zone ON?<br>c) Is zone volume turned up?<br>d) Check zone's MAXIMUM VOLUME/DEFAULT VOLUME settings in Sonance Control Manager software. |
| No Paging signal in zones. | a) Be sure device's 12V Page trigger input is connected to DAB1's CONTROL INPUT. See page 16.<br>b) Be sure Page trigger device is outputting 6 – 24V AC/DC.<br>c) In an expanded system (multiple DAB1s) be sure the Paging audio source is connected to the PAGE IN jack on the primary DAB1. See page 17.<br>d) In an expanded system, be sure PAGE IN/OUT jacks are connected between DAB1s. See page 17. |
| No audio in zones driven by secondary DAB1s in an expanded system | a) Be sure the Source Outputs on the primary DAB1 (the one connected to the source components) are connected to the Source Inputs on the secondary DAB1(s). See page 12.<br>b) Check the Sonance Control Manager VOLUME OFFSET settings for sources on secondary DAB1s (should be '0'.) See page 33. |

**EXTERNAL AMPLIFIERS**

| Problem | Solution |
|---|---|
| Keypad or remote VOLUME UP/DOWN commands change volume in all sub-zones when using external multi-channel amplifier for sub-zone expansion | a) Make sure the specific Zone FIXED/VARIABLE output switch is in the FIXED (IN) position. See page 13.<br>b) Make sure the Zone's DEFAULT and MAXIMUM VOLUMES are set at their appropriate maximum volume in Sonance Control Manager software to achieve proper audio level in sub-zones. See page 32. |
| Keypad or remote VOLUME UP/DOWN do not adjust volume when using an external amplifier. | Make sure the specific Zone FIXED/VARIABLE output switch is in the VARIABLE (OUT) position. See page 13. |

**INFRARED CONTROL**

| Problem | Solution |
|---|---|
| IR commands are not being routed to specific source components | a) IR emitters must be plugged into PROGRAMMED IR jacks. See page 15.<br>b) IR commands must be programmed in Macro Editor to output from a specific PROGRAMMED IR port (see page 37). Default Port output follows Source Input number (Port 1 = Source 1, etc).<br>c) Programmed IR cannot be used in expanded systems (multiple DAB1s) |
| No IR output at primary DAB1 from keypad button presses connected to secondary DAB1(s) in an expanded system | IR LINK(s) must be connected in parallel (daisy-chained) between DAB1s in expanded systems. |
| DAB1 remote does not control the DAB1 unit | a) Remove the batteries, wait about 10 seconds and reinstall the batteries. Use only alkaline batteries.<br>b) Keep the remote off of static surfaces like carpet or rugs. |
| DAB1 remote does not control source components | a) Make sure the IR emitters are properly attached over the IR receivers on the fronts of the source components and properly connected to the DAB1. (In some cases the emitter may need to be moved closer to or further away from the component being controlled.)<br>b) Be sure IR commands for source components (i.e. Play, Pause, Skip Forward, Skip Backward) have been properly programmed-into Keypad macros for the source control buttons in each zone in Sonance Control Manager software. See pages 34 – 45). |
| Source does not respond to IR command(s) output by DAB1 | a) Check Sonance Control Manager to be sure the proper command has been programmed-into a keypad button. See pages 34 – 45.<br>b) Confirm that you have programmed the command for the correct component. If the desired component is not in the IR library, try programming commands from other models of the same component type from that manufacturer.<br>c) Use the OptiLinQ IR Learner to re-learn the command from the original remote into a new IR library and re-program the keypad macro. See page 39.<br>d) Make sure the IR emitter(s) are connected to the proper PROGRAMMED IR output or to the COMMON IR output (see page 15). |

**SERIAL CONTROL**

| Problem | Solution |
|---|---|
| No RS-232 communication with an external device | a) Is the external device ON?<br>b) Is the external device connected with the proper RS-232 cable? Check the configuration of the external device's RS-232 port. The DAB1's RS-232 pin configuration is: **Pin 2 = Receive (Rx), pin 3 = Transmit (Tx), Pin 5 = Ground (Gnd)**.<br>c) Are the 'baud rate' and 'format' of the external device properly configured? See page 40.<br>d) Is the external device properly configured to send/receive?<br>e) Are the ASCII text serial commands programmed in Sonance Control Manager correct? See pages 43 – 44.<br>f) If using Hex commands, be sure the Macro Editor screen's HEX MODE button is pressed before inputting the Hex command. See page 43.<br>g) If the DAB1 is being serial-controlled by the external device, make sure that all DAB1 macros are purged of all RS-232 commands. See page 53. |

**PROGRAM MANAGER**

| Problem | Solution |
|---|---|
| The USB connection gives a Windows error: DEVICE NOT DETECTED | a) Disconnect and re-connect the USB cable from the DAB1 and/or the computer.<br>b) Re-install the USB driver in the computer.<br>c) Confirm that you have made the proper computer Com Port selection and connection.<br>d) Unplug the USB cable from the DAB1, select DOWNLOAD TO DEVICE on the Sonance Control Manager and then re-connect the USB cable to the DAB1. |

## Technical Assistance and Service

**If you have any questions about the operation or installation of this product, please call our Technical Assistance Department on any business day at (800) 582-0772 or (949) 492-7777; from 7 a.m. to 5 p.m., Pacific Time.**

If your product should need repair or service, contact your Sonance Authorized Dealer for help, or use the following procedure:

1. Prior to calling Sonance, note the product's model number, serial number, purchase date, and the name and address of the dealer where you purchased the product.
2. Contact our Technical Assistance Department at the above number(s) and describe the problem the unit is experiencing. If they determine that the product requires service, they will transfer you to our Customer Service Department, who will issue you a Return Authorization (RA) Number.

Important: You must have prior authorization to return your product to Sonance!

3. If you're directed to return the unit to Sonance for repair, pack the unit in its original shipping carton. If needed, you can obtain replacement packaging from us for a small charge. Note: it is best if you place the box into an additional outer "overcarton" before shipment to minimize a chance of theft in shipment. Please include a copy of the original bill of sale inside the package.
4. Contact a package delivery service such as United Parcel Service or Federal Express to arrange prepaid (not collect) shipping. Do not use the U.S. Postal Service.

Important: Freight collect shipments will be refused.

**5. Write the Return Authorization Number on the outside of the shipping carton.**

6. Ship the packaged unit to:

**Quality Assurance Department**
**Sonance**
**212 Avenida Fabricante**
**San Clemente, CA 92672-7531**

## Limited Warranty Coverage (U.S.A. Only)

Sonance warrants to the original retail purchaser only that this Sonance product will be free from defects in materials and workmanship for a period of five (5) years, provided the product was purchased from a Sonance Authorized Dealer.

Defective products must be shipped, together with proof of purchase, prepaid insured to the Authorized Sonance Dealer from whom they were purchased, or to the Sonance factory at the address listed on this instruction manual. Freight collect shipments will be refused. It is preferable to ship this product in the original shipping container to lessen the chance of transit damage. In any case, the risk or loss or damage in transit is to be borne by the purchaser. If, upon examination at the factory or Authorized Sonance Dealer, it is determined that the unit was defective in materials or workmanship at any time during this warranty period, Sonance or the Authorized Sonance Dealer will, at its option, repair or replace this product at no additional charge, except as set forth below.

If this model is no longer available and can not be repaired effectively, Sonance, at is sole option, may replace the unit with a current model of equal or greater value. In some cases where a new model is substituted, a modification to the mounting surface may be required. If mounting surface modification is required, Sonance assumes no responsibility or liability for such modification. All replaced parts and product become the property of Sonance. Products replaced or repaired under this warranty will be returned to the original retail purchaser, within a reasonable time, freight prepaid.

This Warranty does not include service or parts to repair damage caused by accident, disaster, misuse, abuse, negligence, inadequate packing or shipping procedures, commercial use, voltage inputs in excess of the rated maximum of the unit, or service, repair or modification of the product which has not been authorized or approved by Sonance. This Warranty also excludes normal cosmetic deterioration caused by environmental conditions. This Warranty is in lieu of all other expressed warranties. If the product is defective in materials or workmanship as warranted above, the purchaser's sole remedy shall be repair or replacement as provided above. In no event will Sonance be liable for any incidental or consequential damages arising out of the use or inability to use the product, even if Sonance or a Authorized Sonance Dealer has been advised of the possibility of such damages, or for any claim by any other party.

Some states do not allow the exclusion or limitation of consequential damages, so the above limitation and exclusion may not apply. All implied warranties on the product are limited to the duration of this expressed Warranty. Some states do not allow limitation on the length of an implied warranty. If the original retail purchaser resides in such a state, this limitation does not apply.

## EXCLUSIONS AND LIMITATIONS

The warranty set forth above is in lieu of all other warranties, express or implied, of merchantability, fitness for a particular purpose, or otherwise. The warranty is limited to Sonance products registered herein and specifically excludes any damage to loudspeakers and other allied or associated equipment which may result for any reason from use with this product. Sonance shall, in no event, be liable for incidental or consequential damages arising from any breach of this warranty or otherwise. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

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